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Harvard Medical

ALUMNI BULLETIN

WINTER 1997



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Between Clock and Bed, Self-Portrait, 1940-1942
Edvard Munch, 1863-1944
Munch Museum, Oslo, Norway. Photo courtesy of Tatyana Robson.

16 Easeful Death: From Keats to Kevorkian

by Sissela Bok

Pulls of the soul in the debates over suicide and euthanasia.

21 Death on the Streets

by James J. O'Connell

When the fragile lifeline to the homeless fails.

27 Risky and Nonrisky Acts

by Sidney Wanzer

The spectrum of physician assistance in dying.

28 Planning for the End

by Janet Walzer

An interview with Linda Emanuel '84, the new vice president for ethics standards at the AMA.

33 A Good Death

by Howard M. Spiro

Theologians, physicians and historians meet to reacquaint themselves with death.

37 My Patients, My Self

by Susan Block, J. Andrew Billings and Lynn Peterson

Students learn from patients facing death.

38 The Long Walk

by Anne Hallward and Joshua Hauser

41 The Last Lesson

by Jennifer Furin

46 How Denny-Brown Came to Harvard

by Sid Shulman and Joel Vilensky

A deal is struck with Winston Churchill for one of the world's foremost neurologists.

POETRY

15 Ode to a Nightingale

by John Keats

25 Give Me a Doctor

by W.H. Auden

Nocturne

by George S. Bascom '52

Good Night Willie Lee, I'll

See You in the Morning

by Alice Walker

45 I Heard a Fly Buzz

by Emily Dickinson

The Ship Pounding

by Donald Hall

DEPARTMENTS

3 Letters

4 Pulse

New dean chosen, profile of entering class, bad mouse moms, publishing initiative launched, scholars in medicine honored, 150th anniversary of ether demo, genetically altered frog, Primary Care Day, anger and heart attacks.

13 President's Report

by Suzanne W. Fletcher

50 Alumni Notes

51 Alumnus Profile

Donald Bickley

55 In Memoriam

Leonard W. Cronkhite Jr.

Henry Swan II

59 Death Notices

My mother's last words to me were mouthed around an endotracheal tube: "Let me die. I want to die." It was no longer, however, a matter of choice for her. After a night of defibrillations and resuscitations, her heart was irreparable, and in the next few minutes her wish would come to pass. I stood there wanting to demand that the tube be taken out. Although the device obstructed any hope that she or I could have even a fragment of conversation, common sense and the courage to utter it failed me. Half believing the tube must have some further use, I reported correctly that my mother was in pain. An analgesic was quickly given; she fell asleep, and I watched a monitor record the syntax of her heart as it lapsed into electrical chatter and silence.

It was a swift death—barely 72 hours from first pain to last breath—not long enough for deliberations about the choice she expressed, the use of technology, the way it distorted a relationship at the last moment, the propriety of injecting something that might not only ease but speed her passing.

Many years later I was asked to go to the bedside of a man dying somewhat more slowly in a Harvard teaching hospital. The task was to judge his competence. At least daily the treatment team came by to explore his views on resuscitation, and they found his responses to be inconsistent. I thought he was saying the same thing each time: "If I could go on living, I'd like to, but if the end is here, so be it." His sentiment was consistent but hard to operationalize. I suggested that the treatment team stop repeating their questions and bear some of the burden of the uncertainty and anxiety, instead of thrusting it all on the patient. The next day, as I walked by, a physician was leaning over the bed once again: "If you stop breathing, do you want us to put a tube in and breathe for you?"

Even in this era of nonstop talk (and 80,000 retrievable World Wide Web items) on death and dying, physicians continue inadequately prepared to negotiate a seemingly truce with approaching death, according to the authors in this issue of *HMAB*. But at HMS there is a new generation of students being taught by the dying themselves, who may begin to change this state of affairs.

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Telephone: (617) 432-1548. Email address:

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Letters

Stuff and Nonsense

I was surprised to read in the *Bulletin* (Summer 1996) the magisterial statement by Dr. Andrew Weil that "we can never completely understand why people do or don't get better."

If Dr. Weil was not misquoted, then I have to ask where he gets such ideas. It is not good enough to say, if indeed he says it, that there are many unsolved problems in medicine. This is of course correct, but there are many challenges that have been met. There is considerable hope that new solutions, including ones that do not ignore Koch's postulates, are on the way. If we are in a battle with the shifting immunologic defenses of bacteria, let us look carefully at this phenomenon to see if we can mobilize genetic and other mechanisms to counteract it. This and kindred evidence, if achieved, should explain, even for those as obtuse as Dr. Weil, why people do or don't get better. I hope that it will take less than a blinding light or a clap of thunder to get this fairly obvious point across to the herbalists.

If the alternative medicine converts wish to help us understand how better to relate to our patients, that is to be commended. But they do not advance knowledge by grandiose generalities and unsubstantiated claims of miraculous healing, characterized by much of Dr. Weil's book, which is cited uncritically in the *Bulletin* interview. As Dr. Arnold S. Relman pointed out, there really is no such thing as "alternative" medicine—only medicine that has proved to work and medicine that has not (Relman, Arnold S., *Alternative Medicine: A Shot in the Dark*, *Wall Street Journal*, July 12, 1995).

I could work up a worry that the uncritical nonsense in the Weil interview reflects that Harvard Medical School has soared off into space, seized by some exotic antiscience fervor that

tries to talk up a case for basic medicine but puts it aside for the imagined healing power of herbs, tonics, meditation, hypnosis and massage, to list a few of Dr. Relman's understandable vexations. It is of interest that almost coincidental with the *Bulletin's* "Considering the Alternatives" was the arrival of the September issue of *Life* magazine, which carried a story of the Harvard-trained physician, shown covered with, I guess, mud, holding a sprig of peppermint. I am sorry that if that picture had been available to the *Bulletin*, it was decided not to use it. It would have made an appropriate unreal illustration for your unreal account that passes for an interview.

Allow me the charitable assumption that the Weil puffery was a quirk of the *Bulletin* and not reflective of the school or of the issue as a whole and its better entries, notably that of my distinguished former N.Y. U. colleague, Gerald Weissmann on "Mesmerism and Kindred Delusions." Leaving aside his arguable general concept of "progress," Dr. Weissmann's antidote to your advertised nostrums helped to save this issue from being a clairvoyant disaster.

It is my opinion, nonetheless, that the interview with Dr. Weil is an example of incompetent journalism, and the article reflects sloppy editing.

Lester Grant '55

Editor-in-Chief William Ira Bennett '68 replies:

The content of the *Bulletin* is determined by the editors. No single article or issue is meant to represent the school's official position, or anyone else's for that matter. Our hope is that, over time, the *Bulletin* will cover a range of topics and viewpoints reflecting the diversity of the school's alumni, faculty and students.

Sense and Sensibility

Thank you for devoting the Summer issue of the *Bulletin* to alternative medicine. Ever since my career was enhanced by returning to theology school in 1976, I have been seeking ways in which to teach and practice holistic medicine. By that, I mean the integration of body, mind and spirit in health care.

My emphasis has been on patients assuming responsibility for their own health and health care, using my medical expertise as educator and counselor. Listening to the patients' views of their health care needs and goals has led me over and over to take a rational look at alternatives to American allopathic medical tools. Certainly, we must use clinical discernment in deciding which alternative therapies are rationally based and can be subjected to scientific investigation.

Benson's article on transcendent faith and belief in God accords with my experience in medical practice. Many times I have prayed with my patients as they have confronted major life issues and losses, recognizing that I am affirming their faith system. Nelson's article on native healing again underscores the significance of using the patients' faith in the health care process.

The jarring article in this issue is Weissmann's article on mesmerism, in which he takes potshots at several alternative medical tools. The nub of my concern is his contrasting "reductionist, scientific medicine" (which he espouses) and a variety of alternatives (which he decries). It appears that Weissmann would dualistically keep separate techniques that are physical and those that are mental and/or spiritual.

I believe that our medical entry into the next millennium should be marked by the integration of therapeu-

tic tools that address body, mind and spirit. This has been eloquently demonstrated by Jon Kabat-Zinn in his work at the University of Massachusetts Medical Center Stress Reduction Clinic. Colleagues from that medical center refer patients to him for a unique therapy, which serves as an adjunct to "traditional" treatments and allows the patients to gain some mastery over the psychological and spiritual "dis-ease" engendered by their chronic disease conditions.

Let us support the research being promoted by the Office of Alternative Medicine at the National Institutes of Health. By subjecting hypnosis and homeopathic therapies, as well as other alternatives, to the rigors of clinical testing, we may come closer to knowing which therapies have clinical merit.

Thomas C. Washburn '57

John Schott, M.D.

HMS '66

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Next Dean Chosen

Joseph B. Martin, chancellor of the University of California at San Francisco, will be the next dean of the Faculty of Medicine at Harvard. Martin will assume the deanship on July 1, 1997, when Daniel C. Tosteson steps down after 20 years as dean.

A leading neurologist and educator, Martin has served as chancellor of UCSF since 1993 and was dean of the UCSF School of Medicine from 1989 to 1993. Previously, he was professor of medicine at HMS and chief of the neurology service at MGH for more than a decade.

"Joseph Martin is a person of extraordinary wisdom, effectiveness, and experience," President Neil L. Rudenstine said. "He is a distinguished neurologist who has devoted his career to pursuing and affirming the highest standards of excellence in medical education and research. He has been a thoughtful, collegial, and successful leader of a large and complex academic medical center, and he has a thorough understanding of the fundamental changes in health care delivery systems that are transforming the environment for academic medicine, both locally and nationwide. Harvard will be extremely fortunate to have Joseph Martin guiding our faculty of medicine into the next century."

"I am deeply honored by this opportunity to rejoin the academic community at Harvard," Martin said. "The challenges we face in academic medicine require the investment of dedicated energy if we are to maintain, let alone strengthen, the remarkable achievements in health care and biomedical research of the past decades. I am eager, with the help of the outstanding faculty and others throughout the Harvard medical community, to guide the faculty of medicine through these unusually challenging times."

During his tenure as dean of UCSF School of Medicine, Martin is credited with having recruited numerous distinguished physicians and scientists to the UCSF faculty, and having guided the school through a period of constrained resources. He became known for his efforts to stimulate cooperative efforts between basic scientists and clinical investigators, in order to bring the results of medical research more directly to bear on patient care. As dean, Martin was instrumental in establishing the Keck Center for Integrative Neurosciences, dedicated to combining studies of the brain and human behavior. He also oversaw the final development of San Francisco's General Hospital's Gladstone Institute for Virology and Immunology, which is dedicated to AIDS research.

In 1993 Martin was named chancellor of UCSF, a university devoted to health sciences and comprising schools of medicine, dentistry, nursing, and pharmacy, as well as related programs of graduate education and research. As chancellor, Martin has been one of the principal architects of a proposed merger between the hospitals of UCSF and Stanford University, which awaits approval by the Board of Regents of the University of California. Other highlights of Martin's tenure as UCSF chancellor include progress toward the completion of a National Cancer Institute-designated comprehensive care center at UCSF, the successful completion of UCSF's first-ever capital campaign, which raised more than \$550 million; the preparation of a long-range development plan, in close consultation with community leaders, for the renewal of UCSF's main campus and the development of a second one; and the formation of an office of technology management to help foster appropriate links between university researchers and private industry.



Gabriel Moulin Studios, San Francisco

Martin began his Harvard career in 1978, the year after Daniel Tosteson became dean of Harvard's faculty of medicine. The Julieanne Dorn Professor of Neurology at HMS from 1978 to 1989, Martin also headed the neurology service of the MGH. His own research focused on hypothalamic pituitary regulation, the role of neuropeptides in brain function, and the use of molecular genetics to advance understanding of the causes of neurological and neurodegenerative disease. In 1980 Martin helped found the NIH-supported Huntington's Disease Center in Boston, bringing together collaborators from several universities. Investigators in the center located a genetic marker near the gene for Huntington's chorea. That finding, a milestone in molecular biology, made it possible to test for this neurological disorder before symptoms appear.

Tosteson warmly praised the appointment of his successor. "Joseph Martin is superbly qualified to serve as dean of the Faculty of Medicine at Harvard University," Tosteson said. "He is an accomplished and distinguished scholar in clinical neurology and basic neuroscience. He has had excellent experience in the administration of complex modern academic medical centers in Boston and in San

Francisco. Best of all, he is a perceptive, courteous, wonderful human being. I am proud that he will succeed me as dean and happy to welcome him and his wife, Rachel, back to Harvard and to Boston. I congratulate him and thank President Rudenstine and his faculty advisory group for a wise and successful outcome to a careful search."

"I said at the outset of this search that finding a worthy successor to Dan Tosteson would be an extremely difficult task," Rudenstine said. "Dan has been—and for the rest of this academic year will continue to be—an absolutely outstanding leader of our faculty of medicine, and all of us owe him an enormous debt of gratitude."

"I also want to thank literally hundreds of people who offered me thoughtful advice during the course of the search," Rudenstine added. He and Albert Carnesale, the university's provost, met every two weeks with a 15-member faculty advisory group throughout the summer and fall. They received more than 150 letters concerning the search, reviewed the names of more than 100 nominees, and consulted several dozen advisors—at Harvard and the medical community at large—for advice.

A native of Alberta, Canada, Martin

received his medical degree in 1962 from the University of Alberta. He was a resident in neurology and a fellow in neuropathology at Case Western Reserve University, and went on to receive his PhD in anatomy from the University of Rochester in 1971. From 1970 to 1978, he served on the faculty of McGill University in Montreal, where he rose to become professor of medicine and of neurology, and chairman of the Department of Neurology and Neurosurgery.

In 1989 Martin was chosen by the Institute of Medicine of the National Academy of Sciences to chair a committee on "mapping the human brain." The committee's 1991 report emerged as a major guide for policymakers and federal agencies responsible for supporting and directing the Human Brain Project.

The author or coauthor of more than 200 scientific articles, Martin is one of the editors of *Harrison's Principles of Medicine*, a widely used medical textbook. He has served on the editorial boards of the *New England Journal of Medicine* and *Science* and as an advisor for the development of national policy on biomedical research. He is a member of the Institute of Medicine, a fellow of the American Academy of Sciences, a member of the American Association of Physicians, a fellow of the American Association for the Advancement of Science, and a member of the American Neurological Association, of which he served as president in 1989.

Martin currently lives in San Francisco with his wife, Rachel. They have four children.

The First Class of the 2000s

The first class of the new millenium has matriculated and, as in past years, Harvard received a record number of applications. "Close to 4,000 students applied to HMS this year," says Gerald Foster '51, associate dean for admissions and chairman of the Committee on Admissions. "The candidates were outstanding."

Despite this record-setting number, there are indications that the applicant pool will change in the coming year. "For a while, applications to medical school went sky-high due to concerns about other job markets, but now the tables are turning," says Foster. "Medicine is still an exciting career, but with the revolution in health care and the marketplace undergoing great changes, along with the economic climate improving in other fields, a drop is expected in the next year."

What has not changed is that women hold a slight majority in the incoming class for the third year in a row: of the 166 students, there are 89 women and 76 men. Twenty percent of the first-year class is under-represented minorities, and the trend of the older or "nontraditional" student continues, with 38 of the entering class between the ages of 25 and 38. In fact, HMS actively pursues these older students. "I like to say that the nontraditional students bring a lot of leavening to a class," says Foster.

There is also a geographically broad spectrum to the class. Students come from as far as Barbados, Bulgaria, Canada, the Czech Republic, Ghana, Peru and Puerto Rico. Over 25 states are represented, with California topping the list of the "double digit states" with 36 students, followed by Massachusetts (a record number 26), 19 from New York (the lowest ever) and 11 from Maryland.

As in the past, the largest number of college graduates comes from Harvard/Radcliffe (42); Stanford is second with 14, and Princeton is third with 13. The remainder of the students come from 53 other colleges.

"This class has stunning records of academic achievement along with equally impressive personal qualities, classroom activities and life experience," says Foster. The evidence is certainly found in the statistics: the total average MCAT score is over 2 and a half points higher than the national average, and more than 60 percent of the students had science GPAs between 3.75 and 4.00.

As part of orientation activities, groups of second-year students accompanied over half the entering class on a four-day backpacking/camping trip. For the third year, FEAT (First-Year Education Adventure Trip) provided an opportunity for entering students to enjoy the woods of New Hampshire and Maine while talking with second-year students about beginning their medical careers.

During orientation week Edward M. Hundert '84, associate dean for student affairs, told the entering class "to stop worrying that they were the one admissions committee mistake because everyone else has discovered a cure for a rare tropical disease or earned two PhDs in molecular genetics before entering HMS."

"To parody the routine used at certain fiercely competitive business and law schools: look at the person to your left and your right and be warned that, as a statistical weeding out process, the administration of this school expects all three of you to graduate and become doctors. It is with this goal in mind that we have designed a curriculum and an educational experience where collaboration, rather than competition, guides the learning."



Shan Liu receives her white coat, as part of an orientation ceremony, from Marian Neutra, master of the Castle Society.

photo by Steve Gilbert

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Bad Mouse Moms

By knocking out a single gene, Harvard Medical researchers at Children's Hospital have created a strain of mutant mice that ignore their infants. It is considered a powerful demonstration of the effect that one gene can have on animal behavior.

Normal mice, which carry the *fosB* gene, immediately care for their newborn pups: clean and suckle them, crouch over them to keep them warm, and keep them gathered together. Mice that lack that gene exhibit none of these nurturing behaviors.

"They go and explore the pups and sniff them, but then go to the corner of the cage and ignore them," says Michael Greenberg, HMS professor of neurology and director of the Division of Neuroscience at Children's. His laboratory's findings appeared in the July 26 issue of *Cell*.

The missing gene belongs to a poorly understood class of genes known as immediate early genes (IEGs). IEGs are known to be rapidly induced by stimuli outside the cell, such as growth factors and, in the case of neurons, neurotransmitters. Once turned on, they produce transcription factors which, in turn, induce the expression of other genes. *FosB* might be exerting its widespread effects by turning on a variety of other genes within a critical brain region responsible for modulating the behaviors involved in nurturing, speculates Greenberg.

When she set out to find out more about the *fosB* gene in 1992, Jennifer Brown, an MD/PhD student in Greenberg's lab, had no idea that the gene would have anything at all to do with nurturing behavior. Two years later, she had her first generation of mutants, but initially was extremely disappointed: they all looked normal. It was when she mated the mutants

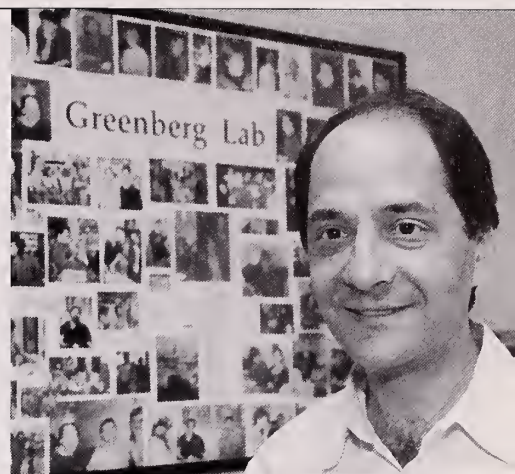


photo by Steve Gilbert

with one another that she got the stunning results. Most of the offspring died; it was only when they were adopted by normal mice moms that they could survive. Their mammary glands were normal, the researchers subsequently established, but their nurturing instinct was not.

The researchers are now exploring how *fosB* acts in the preoptic area of the hypothalamus, an area of the brain known to play a role in nurturing behavior. They want to see how *fosB* interacts with other genes and hormones and try to get at the molecular basis for nurturing behavior. "It's obviously going to be a lot more complex than just *fosB*," says Greenberg.

As *fosB* is also present in higher mammals and humans, their work in mice may provide clues to understanding human nurturing behavior as well, though the researchers caution that no concrete extrapolation can be made at this time.

Publishing Initiative Launched

Harvard Medical School and the publishing company Simon & Schuster are teaming up to publish books, newsletters and electronic products on consumer health and health care leadership. The various projects will be designed to empower patients and doctors through the dissemination of authoritative consumer and health care management information under the HMS imprimatur.

Among the first major works to be produced will be "The Harvard Medical School Family Health Guide," a book and CD-ROM to be released in 1998. Other health guides being considered include ones geared to senior citizens, to parents, one on nutritional medicine and another on medications. The partnership also expects to translate and distribute new and existing HMS newsletters—such as the *Harvard Health Letter*—overseas.

Simon & Schuster Audio plans to publish audiobooks related to health promotion and stress reduction. And Jossey-Bass, Simon & Schuster's San Francisco-based publisher for professionals, leaders and executives will publish books, periodicals and training materials in two series, one focusing on the business of health care and the other on medical computing.

The Harvard side of the initiative is to be led by Anthony L. Komaroff, HMS professor of medicine and director of the Division of General Medicine and Primary Care at Brigham and Women's Hospital. "The Harvard Medical School faculty represents a tremendous resource of health care expertise," said Komaroff. "In partnering with Simon & Schuster we are creating a truly powerful combination for bringing important and reliable medical information to a wide audience."

Scholars in Medicine Honored

Graduate students often come into the office of Chao-ting Wu, assistant professor of genetics at HMS, close the door, and ask her, "Is it worth it?" This question undoubtedly refers to the challenges both women and minorities face in reaching the junior faculty level at HMS and then continuing up the academic ladder.

Wu and nine other junior faculty will get some help facing these challenges through the 50th Anniversary Program for Scholars in Medicine fellowship awards. Ten awards, each in the amount of \$25,000, are targeted to junior faculty who typically do not have independent funding and are in the midst of writing grants, establishing a clinical practice, trying to publish and do research, while juggling professional and personal responsibilities. The fellowship recipients were honored at a reception at the medical school on October 9.



Anthony Komaroff, Dean Tosteson and Jonathan Newcomb, CEO of Simon & Schuster.

photo by Stu Rosner



photo by Steve Gilbert

Eleanor Shore

The fellowship awards were announced last spring and over 200 junior faculty from HMS and its affiliated institutions applied. A committee chose seven junior faculty to receive the fellowships, with another three faculty also awarded fellowships in a separate process at Channing Laboratories and Harvard Pilgrim Health Care.

It was a proud and happy group of sponsors, donors and alumnae that assembled for the reception. After welcoming remarks by Dean Tosteson, Eleanor Shore '55—dean for faculty affairs and chair of the 50th anniversary committee—introduced the recipients, who described their research interests and how they plan to use their awards.

Elaine Hylek, instructor of medicine at Massachusetts General Hospital, and recipient of the Alumnae and Friends Fellowship, expressed her thanks to Harvard for both seeing the need for the program and acknowledging the difficulty in getting an academic career started. "I am so excited and thrilled. It's a symbol that HMS as an institution cares about the lower rung. We're not Nobel prize winners but struggling to get there."

For Hylek, whose research focuses on stroke and stroke prevention, the fellowship will free up time for her "to pursue research and write the papers that have been on my desk for nine months." In addition, the money will be used as a bridge to independent

funding. Other recipients will also use their money to access independent funding, as well as hire laboratory support staff, conduct studies or write grants.

Shore, who initiated the fellowship program as part of the 1995 celebration that honored the 50th anniversary of women being admitted to HMS, sees the long-term impact of these awards. "These recipients give us fresh hope that the present statistics (only seven percent of full professors at HMS are women and only two percent are minorities) will be looked at as fossils in the future."

Shore, who with her husband Miles Shore are the donors of the Eleanor and Miles Shore Fellowship, notes that "The true winners will be the fields of medicine in which these recipients work." Indeed, the awardees are covering much medical terrain including

HIV, cholesterol, violence prevention and CMV.

There will be 50 fellowships awarded through the year 2,001, 40 of which are already funded. The following is a list of the recipients and their awards:

Evan Abel, MBBS, DPhil, instructor in medicine, Beth Israel Hospital, Eleanor and Miles Shore Fellowship

Sandra Burchett, MD, assistant professor of pediatrics, Children's Hospital, Children's Hospital Department of Medicine Fellowship in honor of Dr. Mary Ellen Avery

Leticia Castillo, MD, assistant professor of pediatrics, Massachusetts General Hospital, Lynne M. Reid Fellowship in memory of Violet and Robert Muir Reid

Chao-ting Wu and her daughter



photo by Steve Gilbert

Lisa Diller, MD, assistant professor of pediatrics, Dana Farber Cancer Institute, Children's Hospital Department of Pathology Fellowship in honor of Dr. Lynne M. Reid

Anita Feins, MD, clinical instructor in pediatrics, Harvard Pilgrim Health Care, Harvard Pilgrim Health Care Foundation Fellowship in memory of Dr. Robert H. Ebert

Diane Ruth Gold, MD, MPH, assistant professor of medicine, Channing Laboratory, Brigham and Women's Hospital, Edward and Amalie Kass Fellowship

Hilde-Kari Guttormsen, MD, PhD, instructor in medicine, Channing Laboratory, Brigham and Women's Hospital, Edward and Amalie Kass Fellowship

Elaine Hylek, MD, MPH, instructor in medicine, Massachusetts General Hospital, Alumnae and Friends Fellowship

Francine Welty, MD, PhD, instructor in medicine, New England Deaconess Hospital, Irving and Charlotte Rabb Fellowship in memory of Dr. Grete Bibring

Chao-ting Wu, PhD, assistant professor of genetics, Harvard Medical School, Richard and Priscilla Hunt Fellowship

No Humbug

Anesthesia is something the world has come to take for granted. Not so on October 16, 1846, when a Boston dentist by the name of William T.G. Morton administered ether to a patient, who, following removal of a jaw tumor, informed the skeptical audience that he had felt no pain. While the patient was being carried from the operating theater, MGH's chief surgeon, John Collins Warren, who had performed the operation, turned and faced the incredulous assemblage of onlookers, commenting, "Gentlemen, this is no humbug." News of the discovery spread quickly, and within months it was hailed as the "greatest gift ever made to suffering humanity."

This fall HMS and MGH celebrated the 150th anniversary of Morton's first demonstration of ether anesthesia, thus reminding us of the dramatic effect this event had on surgical medi-

cine—transforming it from a primitive torture to a far gentler art. Countway Library mounted an exhibition of paintings depicting the historical demonstration. During the one-month exhibition, Robert C. Hinckley's well-known pictorial recreation of "The First Operation Under Ether" was flanked by original portraits in oil and crayon of the four persons associated with the discovery and introduction of surgical anesthesia: Horace Wells, Charles T. Jackson, William T.G. Morton and Crawford Long.

The opening of the Countway exhibition coincided with MGH's celebration on October 16-17. A number of medical luminaries participated in the two-day conference, including HMS's Francis D. Moore '39, Guillermo Sanchez '49, Samuel O. Thier, David H. Sachs '68, M. Judah Folkman '57, Patricia L. Donahoe and Philip Leder, '60, among others.

The celebration opened with a

Kathleen and Richard Warren, descendants of the Warren family, in front of the Robert Hinckley painting, *First Operation Under Ether*.

photo by Steve Gilbert



Boston tour that highlighted MGH's Ether Dome, the Monument to Ether at Boston Public Garden, and the graves of Morton, Holmes, Jackson and Bigelow at Mt. Auburn Cemetery. The 150th anniversary included a number of historical presentations on everything from the nature of surgery in 1846 to the personalities involved with the first anesthesia trials.

Appropriately enough, the second and final day of the Ether Day celebration took a look at twentieth century medicine and beyond in such presentations as Thier's "Health Care Policy and Hope for the Future" and Leder's "Cancer: Is it Really a Genetic Disease?"



photo by Steve Gilbert



Just Add Some DNA and a Pinch of Extract

Thanks to Kristen Kroll, the transgenic mouse now has some competition in the field of genetically altered animals. Kroll, a postdoctoral fellow in the HMS Department of Cell Biology, has created an easy and inexpensive method to produce a genetically altered frog, which will allow easy study of the molecular pathways in frog embryology. This method, which she is now teaching to scientists throughout the world, was described in the October issue of *Development*.

African clawed frogs have been widely used by embryologists for years due to their large egg size and ease with which the eggs grow in a culture dish. Earlier research attempts at injecting nucleic acids into frog eggs were not successful, however. "We really needed the means to achieve stable integration of introduced DNA in the embryos and to fine-tune the time and place of expression," says Kroll, who works in the laboratory of Marc Kirschner, the Carl Walter Professor of Cell Biology. Kroll began this work as a graduate student at University of California at Berkeley, where she developed a method that was not as efficient or reliable.

Before she left UCal/Berkeley, she teamed up with Enrique Amaya, who as a graduate student had worked in Kirschner's lab. Together, they created a "recipe" that can treat as many as 500 eggs in an hour, with 10 to 20 percent of these eggs becoming

embryos. The recipe consists of combining sperm nuclei and the DNA construct into a tube, adding an enzyme that permits the DNA construct to insert itself into the sperm DNA, then adding an extract to facilitate the insertion. After this mix incubates for ten additional minutes, it is transferred to a capillary tube and injected into freshly harvested frog eggs.

Quite a simple procedure, as Kroll notes: "All you need to do is show up in the lab, fix up your mix, and shoot it in. The next day you can analyze your embryos, and study how the introduced gene affects their development."

Kroll's and Amaya's method is cost-effective as well. All the requisite materials are found in any embryology lab, at a cost of about \$1,000, as compared to the \$100,000 necessary to equip labs that produce transgenic mice. This method "offers invaluable advantages," says Kroll, and creates considerable research potential, particularly at the earliest embryonic stages.

Grumpy Old Men

A new study demonstrates just how risky it may be for a grumpy and impatient man to be stuck in traffic. Ichiro Kawachi, assistant professor of medicine at HMS, and coworkers found that extreme forms of anger can increase the risk of heart attack in older men by as much as three times. The results of this study were published in the November 1 issue of *Circulation*.

The researchers followed 1,305 Veterans Administration patients for seven years, beginning in 1986. During this period, there were 110 cases of coronary heart disease, including 20 fatal and 30 nonfatal heart attacks. Anger was measured by a written questionnaire. "We're talking about extreme anger here," says Kawachi. "From the kinds of questions we asked the subjects, some felt like exploding, others were constantly irritable and grouchy, still others would hurt furniture and even other people. This is not the common garden-variety irritation that we might feel."

Kawachi and colleagues asked these otherwise healthy men (between the ages of 40 and 90) questions like "At times, do you feel like swearing, smashing things, kicking that slow person in line?" They then ranked their answers on a scale from 0 to 14. The higher the score, the greater the risk of a heart attack or angina. "Anger releases stress hormones like adrenalin, which increases the stickiness of the blood and can cause clotting in the coronary arteries and heart attack," explains Kawachi.

Kawachi's results are reminiscent of another Harvard study done in 1995 that showed the risk of heart attack more than doubled two hours after moderate to intense anger. "Our study demonstrates a longer term increase in the risk among older men," notes Kawachi.

Although many doctors now recommend taking aspirin daily to reduce the chance of blood clots forming, Kawachi says he wants to see more studies before he would recommend this practice, but does note that aspirin has a moderate protective effect. He does recommend quitting smoking, exercising to reduce stress, and anger management counseling.

Of Primary Concern

Jordan Cohen '60, president of the AAMC, was the speaker at HMS's National Primary Care Day celebration in October. "A consensus is now emerging in the medical education community that embedding the concepts and principles of generalism in the medical school curriculum has value for the education of every medical student," he commented. "The challenge for U.S. medical schools in the 21st century will be to provide all medical students with a firm generalist foundation, no matter what kind of medicine they eventually choose to practice."

HMS celebrated National Primary Care Week with a number of presentations at the Medical Education Center. Nakela Cook, a second-year student, gave a talk entitled "The Family Van—Mobile Primary Care Services for Boston." She described her experiences working with the mobile clinic. Karen Carlsen, of the MGH, gave a talk about delivery of primary care and preventive medicine to women. There was a presentation on "Alternative Medicine and Primary Care," and Tim Perrin, of the MGH, gave a talk on the prospects for universal coverage entitled "Health Care for Uninsured Children." The week concluded with a discussion by 4th-years describing why they chose primary care.

Interest in the primary care career

option is growing at HMS. More than half of the graduating class of 1996 entered generalist residencies, such as internal medicine, pediatrics, obstetrics and gynecology and family practice. Under the direction of Thomas Inui, the Primary Care Division at HMS has implemented many programs to nurture students interested in pursuing careers as primary care physicians. Among them is the year-long primary care clerkship. This clerkship, which will be inaugurated in January 1997, will give students the opportunity to care for patients over a long period of time.

We're Honored

The *Harvard Medical Alumni Bulletin* recently won an Award of Excellence, the highest honor in its category, external publications, from the Association of American Medical Colleges. The winning issues were from 1995: the mind, brain, behavior issue (with hologram on cover), the women's issue, and the one entitled "Living Memory."

President's Report

by Suzanne W. Fletcher

The packed agenda of the Alumni Council's November 15, 1996 meeting included happy discussion of President Rudenstine's announcement that Dr. Joseph Martin, chancellor of the University of California at San Francisco, will be the next dean of HMS (see page 4). He succeeds Daniel Tosteson '49 who is stepping down June 30, 1997 after 20 years as dean.

The Alumni Office is going electronic, with its own Home Page (<http://www.med.harvard.edu/alumni>). Alumni with access to the Internet can now get information about alumni reunion dates and other activities right on the computer. Perhaps as an outgrowth of the networking capabilities that come with this electronic age, the council began a discussion of new services that might help alumni. Several council members polled alumni in their pentads for ideas. Suggestions tended to follow the phases of life, with new alumni expressing need for debt service aid, middle-aged alumni asking for help with business and management skills, and "mature" alumni requesting programs for those nearing retirement. The council will continue these discussions at our winter meeting in February. Meanwhile, I encourage all those with ideas to contact us.

Dean Tosteson shared with the council the curriculum changes introduced into the third and fourth years. As the care of patients moves from hospital wards to ambulatory sites, there are new needs for patients and teachers. Medicine and surgery clerkships have been expanded from two- to three-month blocks. Students spend the extra month in ambulatory settings to learn care of patients with illnesses that no longer require admission to the hospital.

A new year-long Longitudinal Primary Care clerkship will begin in January 1997 for all third-year medical

students. The students will work one-half day per week in the office of a general internist, general pediatrician or family physician in the Boston area. It is hoped that over the course of the year students will not only learn what primary care involves but will build a small panel of patients whom they follow over time, so they can have an opportunity to experience the privilege of long-term relationships between doctors and patients. Alumni in the Boston area who might like to precept a student in their office or who want to learn more about the program should contact Robert Fletcher '66, clerkship director (phone: 617-421-6013; fax: 617-8598112; e-mail: rfletch@warren.med.harvard.edu).

The council heard that it is increasingly difficult to find patients with certain physical findings for second-year medical students learning physical diagnosis in the Patient/Doctor II course. For example, when students are learning the cardiac examination, patients with various murmurs are no longer easily available for examination on the hospital wards. Faculty increasingly call on ambulatory patients willing to help by spending an occasional afternoon with several students. The council discussed a suggestion that the Alumni Office coordinate efforts of nearby alumni with suitable patients who would like to help. Richard Hannah '66, former council treasurer, told of responses to the idea from his patients and pointed out that a number of administrative and logistic challenges need attention for such an idea to work. Meanwhile, any alumni interested in learning more about the proposal or who have suggestions should contact Nora Nercessian (617-432-1560; email: norannl@warren.med.harvard.edu)

William Silen, faculty dean for faculty development and diversity,

described the Mentoring Award, annually given to a faculty member who has been an outstanding mentor to students, residents or junior colleagues. (Marshall Wolf '63 received the 1996 award.) The council agreed that in addition to the present award, a new Alumni Association Mentoring Award should be created, with alumni making the nominations. Bill Silen will call for nominations soon, and can be contacted at 617-432-1061.

As I hope is clear from this report, the Alumni Council has not only gone electronic, but wants to be interactive as well. We want to hear from more of the 8,500 alumni, so please feel free to react to some of the ideas reported, and suggest new ones as well. Let us hear from you.

Alumni Association Officers

Suzanne Fletcher '66 (617-421-6011)
Roman W. DeSanctis '55 (617-726-2889)
Robert S. Lawrence '64 (410-614-4590)
George E. Thibault '69 (617-732-8515)
Arthur R. Kravitz '54 (617-244-3697)
David D. Oakes '68 (408-885-6060)

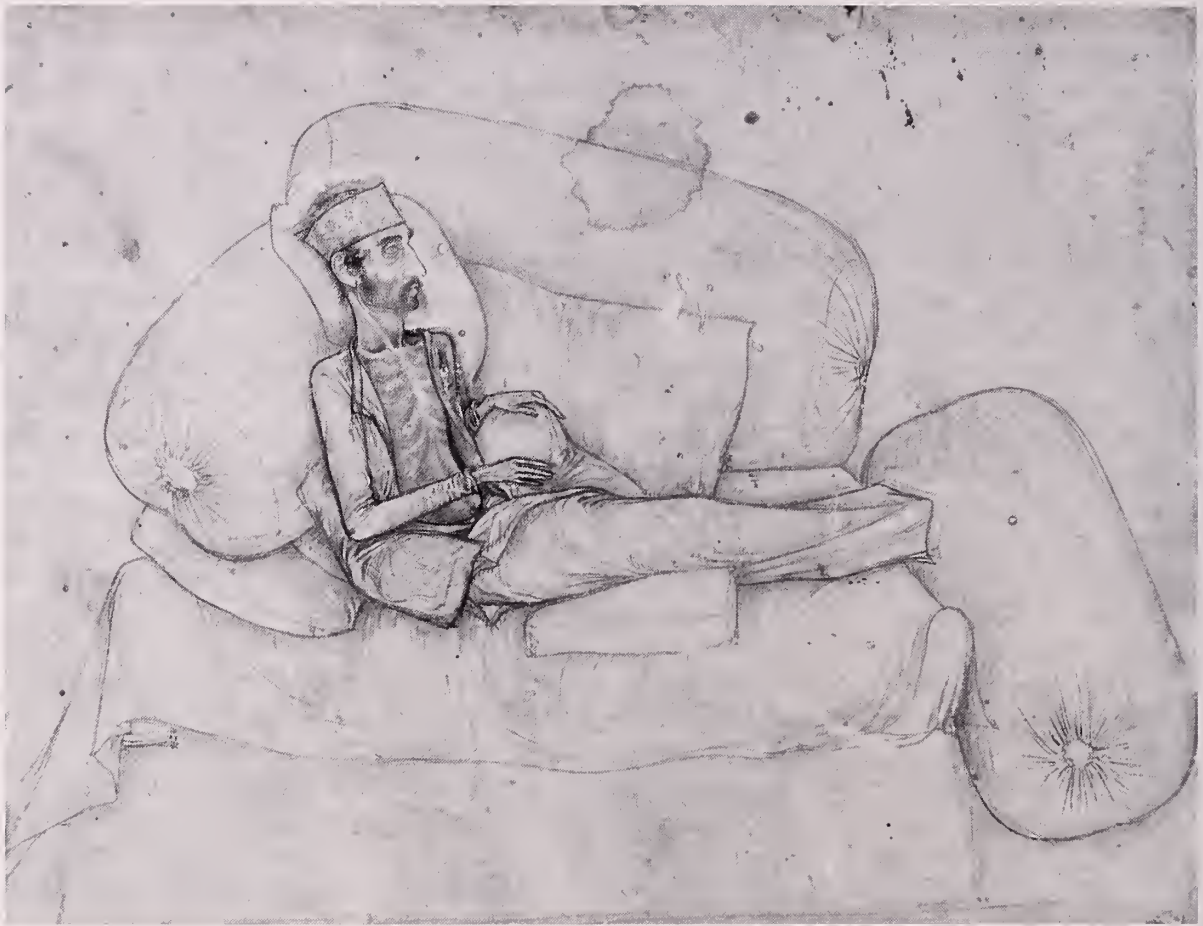
Councillors

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Dana Leifer '85 (203-737-4087)
Katherine L. Griem '82 (312-942-5751)
Laurie R. Green '76 (415-379-9600)
Sharon B. Murphy '69 (312-880-4584)
Gilbert S. Omenn '65 (206-543-1144)
Gerald T. Keursch '62 (617-636-7004)
John B. Stanbury '39 (617-277-3545)
David P. Gilmour '66 (603-883-2226)
Chester d'Autremont '44 (617-259-8155)

Ex-Officio

Daniel C. Tosteson '48 (617-432-1501)
Daniel D. Federman '53 (617-432-1497)
William I. Bennett '68 (617-576-6199)
Nora N. Nercessian (617-432-1560)

Suzanne W. Fletcher '66 is HMS professor of ambulatory care and prevention at Harvard Pilgrim Health Care.



The Dying Inayat Khan
India (Mughal)
Francis Bartlett Donation of 1912
and Picture Fund, courtesy,
Museum of Fine Arts, Boston

Ode to a Nightingale

John Keats, 1819

My heart aches, and a drowsy numbness pains
My sense, as though of hemlock I had drunk,
Or emptied some dull opiate to the drains
One minute past, and Lethe-wards had sunk:
'Tis not through envy of thy happy lot,
But being too happy in thine happiness, —
That thou, light-winged Dryad of the trees,
In some melodious plot
Of beechen green, and shadows numberless,
Singest of summer in full-throated ease.

O, for a draught of vintage! that hath been
Cool'd a long age in the deep-delved earth,
Tasting of Flora and the country green,
Dance, and Provençal song, and sunburnt mirth!
O for a beaker full of the warm South,
Full of the true, the blushful Hippocrene,
With beaded bubbles winking at the brim,
And purple-stained mouth;
That I might drink, and leave the world unseen,
And with thee fade away into the forest dim:

Fade far away, dissolve, and quite forget
What thou among the leaves hast never known,
The weariness, the fever, and the fret
Here, where men sit and hear each other groan;
Where palsy shakes a few, sad, last gray hairs,
Where youth grows pale, and spectre-thin, and dies;
Where but to think is to be full of sorrow
And leaden-eyed despairs,
Where Beauty cannot keep her lustrous eyes,
Or new Love pine at them beyond to-morrow.

Away! away! for I will fly to thee,
Not charioted by Bacchus and his pards,
But on the viewless wings of Poesy,
Though the dull brain perplexes and retards:
Already with thee! tender is the night,
And haply the Queen-Moon is on her throne,
Cluster'd around by all her starry Fays;
But here there is no light,
Save what from heaven is with the breezes blown
Through verdurous glooms and winding mossy ways.

I cannot see what flowers are at my feet,
Nor what soft incense hangs upon the boughs,
But, in embalmed darkness, guess each sweet
Wherewith the seasonable month endows
The grass, the thicket, and the fruit-tree wild;
White hawthorn, and the pastoral eglantine;
Fast fading violets cover'd up in leaves;
And mid-May's eldest child,
The coming musk-rose, full of dewy wine,
The murmurous haunt of flies on summer eves.

Darkling I listen; and, for many a time
I have been half in love with easeful Death,
Call'd him soft names in many a mused rhyme,
To take into the air my quiet breath;
Now more than ever seems it rich to die,
To cease upon the midnight with no pain,
While thou art pouring forth thy soul abroad
In such an ecstasy!
Still wouldst thou sing, and I have ears in vain —
To thy high requiem become a sod.

Thou wast not born for death, immortal Bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown:
Perhaps the self-same song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that oft-times hath
Charm'd magic casements, opening on the foam
Of perilous seas, in faery lands forlorn.

Forlorn! the very word is like a bell
To toll me back from thee to my sole self!
Adieu! the fancy cannot cheat so well
As she is fam'd to do, deceiving elf.
Adieu! adieu! thy plaintive anthem fades
Past the near meadows, over the still stream,
Up the hill-side; and now 'tis buried deep
In the next valley-glades:
Was it a vision, or a waking dream?
Fled is that music: — Do I wake or sleep?



Easeful Death: From Keats to Kevorkian

by Sissela Bok

Darkling I listen; and, for many a time

*I have been half in love with easeful
Death,*

*Call'd him soft names in many a mused
rhyme,*

To take into the air my quiet breath;

Now more than ever seems it rich to die,

*To cease upon the midnight with no
pain*
❧

I WANT TO RECONSIDER THE ISSUES OF suicide and euthanasia that I took up in my doctoral dissertation in philosophy over a quarter of a century ago, in light of a state of affairs that I did not foresee at the time: that so many in our society should still have reason to fear the prospect of a dehumanizing, prolonged and painful death. But rather than rehearse the arguments for and against changes in the law, I suggest that we look, first, for some common ground, some shared premises, from which we might examine the debates more fruitfully.

I shall begin by considering the topic of easeful death, as illuminated by John Keats' "Ode to a Nightin-

gale." Keats was 23 years old in May 1819 when he composed this poem. He had lived in the presence of illness and death since the age of eight, when an accident killed his father. He had nursed his mother, who died of consumption when he was 14. Shortly thereafter, he was apprenticed to a surgeon and apothecary. At the time, surgeons received training more rudimentary than that of physicians, which qualified them for such tasks as pulling teeth, providing general medical advice, and carrying out amputations.

When he had finished his training, at 21, Keats decided to devote himself instead to poetry, no matter how unlikely he thought it would be to earn his living that way. That winter, he also nursed his younger brother, Tom, who was dying of consumption.

"Ode to a Nightingale," written the following spring, conveys a longing to leave behind the sight and sounds of suffering and death that Keats himself knew so well:

The weariness, the fever, and the fret

*Here, where men sit and hear each
other groan;*

*Where palsy shakes a few, sad, last gray
hairs,*

*Where youth grows pale, and spectre-
thin, and dies*
❧

Keats expresses the temptations of death in his own life, in part out of empathy for all who suffer, in part out of guilt to be still alive. But he had also discovered within himself the most exuberantly rich poetic genius, second, many say, only to Shakespeare. He conveys, too, the contradictions between longing for death and the passion to live and to create, between empathy for the the dying as against aching to escape, between heartache and ecstasy, between the intensity of life's experience and its brevity.

These are tensions and countervailing forces we can all share when seeing death in others and thinking of our own lives and future death. But for the most part, we are masters at blocking these tensions out of our consciousness. Keats illuminates them all. He forces us to see the complexity, the

warring impulses within ourselves, in their full energy and ability to pull us in several directions at once. As Professor Walter Jackson Bate says in his biography, *Keats*, the “Odes” are analogous to experience as a whole, — which is why “we continue to return to them as we could not if they betrayed experience by oversimplifying it.”

Keats himself had worried about a recurring sore throat in 1819, even as he composed his great “Odes.” That same fall, his condition worsened; fevers and hemorrhaging made him fear that he had developed consumption in its active phase. He wrote to a friend: “I wish for death every day and night to deliver me from these pains, and then I wish death away, for death would destroy even those pains which are better than nothing. Land and sea, weakness and decline are great separators, but death is the great divorcer.”

Keats made one last great effort to live, to be cured. He decided to travel by steamer with his friend Joseph Severn to Italy, hoping that the milder climate would be beneficial and that a physician there of whom he had heard could help him to recover. Before they left England, Keats asked Severn to buy a bottle of laudanum (tincture of opium) for him.

By the time they reached Rome, Keats was already close to death. His last months were spent in a small room, with next to no money, nursed by an increasingly desperate Severn and an ineffective physician. Keats asked Severn for the laudanum, hoping to use it, as in his poem, to drift into oblivion when his suffering grew too great. But Severn kept it from him. In a letter a month before Keats died, Severn wrote that the hardest point between them was:

that cursed bottle of opium —he had determined on taking this the instant his recovery should stop —he says to save him the extended misery of a long illness —in his own mind he saw this fatal prospect —the dismal nights—the impossibility of receiving any sort of comfort —and above all the wasting of his body and helplessness —these he had determined on escaping—and but for me —he would have swallowed this draught 3 months since —

Severn saw it as his Christian duty to keep the bottle from Keats. Many of us would have wished it otherwise, or would have wished for Keats to have that bottle as a way to still his pain, perhaps as a way toward “easeful death.” When at last Keats knew that his death was imminent, he, who had seen so many die, asked Severn if he had ever had that experience. On hearing Severn reply that he had not, Keats’s thoughts were with his friend more than with himself: “Well, then, I pity you poor Severn — what trouble and danger you have got into for me — now you must be firm, for it will not last long.” The next day, February 24, 1821, Keats died, and his last hours were peaceful.

Today’s debates about physician-assisted suicide sometimes convey the false impression that most persons who are seriously ill, even in pain, nearing the end of life, want single-heartedly to achieve an easeful death and are only held back from finding such relief by society and its laws. The fact is, of course, that a great many are either vacillating, as was Keats, or wanting to live, as Keats did so fiercely much of the time; and that they see doctors and nurses and other health professionals who help them in this effort as their supporters, not their enemies.

Olof Lagercrantz, a Swedish poet now in his mid-80s, conveys this perspective. Like Keats, he suffered from tuberculosis in his youth. Although he had been cured, the weakened condition of his lungs made it necessary for him to be hospitalized whenever he

experienced serious difficulty in breathing. In the following poem, written while in the hospital, Lagercrantz expresses a gratitude that I fully believe Keats would have shared, could he have received similar help:

Lungorna är våra inre vingar.
The lungs are our inner wings.

Med hjärtat mellan sig de lyfter oss.
With the heart between themselves they lift us.

När deras fjäderandedräkter skadas
When their feather breaths are hurt

sjunker vår flykt. — O, hjälp oss ni,
our flight sinks. — O, help us you,

förtrogna med de faror som oss hotar,
initiates of the dangers that threaten us,

att hålla oss i luften än en stund.
to hold ourselves aloft yet awhile.



Is there a shared premise that we can draw from reflecting on both poems? At the very least, I suggest that it is the need for fuller perception of what is at issue when it comes to the approach of death; for encompassing greater complexity and depth than we encounter in many of today’s debates about suicide, euthanasia and physician-assisted suicide; for acknowledging the pulls of different movements of the soul when it comes to death, easeful or otherwise; but also for seeing the strength of the hope, in the words of Lagercrantz, “to hold ourselves aloft yet awhile.” This shared premise cautions us against “betraying experience by oversimplifying it,” as Bate puts it. But it also underlines the attentive, supportive care that persons nearing death ought to have and too rarely receive, as well as the contrast between all that medicine can do today to cure disease and the everyday failures to provide humane care at the end of life.

I did not fully foresee, in my 1970

dissertation, that these failures would persist. At the time, I found commentators who either accepted both suicide and euthanasia as morally justified under certain circumstances or who rejected both as immoral; still others who distinguished between the two from a moral point of view. According to the latter, there are extreme and tragic circumstances under which suicide should be seen as a legitimate option, whereas the risks of legalizing euthanasia are unacceptable.

Though agreeing with this last group, I found the conflict to be sharp between the understandable individual calls for release from great and irremediable suffering and the legitimate importance that societies traditionally attach to protecting innocent third parties against risks resulting from any relaxation, however well-intentioned, of rules against killing.

What added to the poignancy of this conflict was that the arguments on each side were largely beside the point for those with most at stake on the other side. On the one hand, individuals suffering so much as to plead for deliverance have done no harm to those hypothetical persons for whom they are being asked to make a sacrifice; nor would their receiving voluntary euthanasia directly harm any other person. Why, then, should they be forced to continue to suffer? On the other hand, those persons who might fall victim to errors and abuses resulting from a societal shift in favor of voluntary euthanasia would hardly accept the suffering of patients so desperate as to plead for euthanasia as a reason why their own interests should be sacrificed, through no initiative of their own and without their consent.

It was therefore not enough, I concluded, merely to take a position against legalizing euthanasia. Considering the individuals whose suffering leads them to plead for death, much more had to be done to respect their right to refuse treatment and even, as a last resort, their right to speed their own death. I supported liv-

ing wills, still unfamiliar at the time, and urged greater stress on providing humane care at the end of life, including adequate pain relief and the option of home care when possible when death was near. In Britain, Cicely Saunders, MD, had recently pioneered what was to become a growing hospice movement, stressing the personal attention, support, and provision of adequate pain relief and palliative care too often lacking in hospitals.

In 1970, even as I did not anticipate the continued massive failure to provide adequate relief and humane care at the end of life, so too I could not foresee that it would add so greatly to the force of euthanasia advocacy. Least of all could I have foretold the appeal, for many in the public, of Jack Kevorkian's dramatic advocacy and implementation of what he calls "patholysis" to bring about death. His methods have brought renewed attention on all sides of the debate about physician-aided suicide, to distinctions he expressly does not wish to draw, such as those between patients who are and are not in acute pain or suffering from a terminal illness.

The current debate has also been galvanized by greater media coverage of the plight of many whom our medical care system are failing as they near the end of their lives. By now, even as life expectancy has increased and as old age has become a time of health and well-being for far more persons than had been expected even a decade ago, we have stark evidence of the extreme suffering that too many endure in our society at the end of life. We have learned that living wills and health care proxies often fail to provide adequate protection for patient choice, and that a high proportion of terminally ill patients are left without adequate information about their condition, and forced to suffer needless pain before dying. The rights to refuse treatment and to be adequately informed may be guaranteed in the law and encoded in elegant statements of patients' rights; but they are worthless

to any patient who cannot count upon them in practice.

A study published in the fall of 1995 has brought home the discrepancy between how patients at the end of life ought to be treated and how too many are in fact treated. The SUPPORT project ("Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments") was conducted in five major medical centers in this country. An editorial in the November 22/29, 1995 issue of the *Journal of the American Medical Association* points out that the SUPPORT study documented serious problems with terminal care, even after nurses relayed patients' wishes for treatment to doctors. Patients in the study experienced considerable pain, and communication between physicians and patients was poor:

Only 41 percent of patients in the study reported talking to their physicians about prognosis or about cardiopulmonary resuscitation (CPR). Physicians misunderstood patients' preferences regarding CPR in 80 percent of the cases. Furthermore, physicians did not implement patients' refusals of interventions. When patients wanted CPR withheld, a do not resuscitate (DNR) order was never written in about 50 percent of the cases.

Behind these factual statements lie many thousands of individual human tragedies. The coauthors concluded that the picture they gave of the care of seriously ill or dying persons was not attractive, and that "One would certainly prefer to envision that, when confronted with life-threatening illness, the patient and family would be included in discussions. Realistic estimates of outcome would be valued, pain would be treated, and dying would not be prolonged. That is still a worthy vision."

One of the coleaders of the study, William Knaus, MD put the matter more bluntly still in an interview with the *Boston Globe*: "When people die after prolonged suffering, the doctors

say, 'We did everything we could.' They don't say, 'We put this person through hell before he died.'

The SUPPORT study ought to sound an alarm to all with a stake in the medical care given at the end of life. It should alert everyone to do much more than place faith in living wills, written directives and conversations with family members and health professionals. They should also look for available advance care planning, palliative care and hospice alternatives.

To those of us who have worked and written and taught in the field of medical ethics, the SUPPORT study must sound the sharpest of alarms. Its results strike at the heart of what we have hoped to accomplish over the past decades on the subject of care for the dying. We have to ask ourselves how we can do better and reconsider our role in trying to counter the present systemic malfunctioning. True, it is still the case that the vast majority of physicians never had a course in medical ethics and were trained in a tradition that placed less emphasis on shared decision-making with patients and their families; but this hardly suffices to explain the broad failure to abide by the most elementary tenets of good doctoring and legal obligation. The challenge for all who teach medical ethics will be to consider not only the courses but also the role models, the incentive structures and the institutional policies that might promote and reinforce the more consistent honoring of these tenets.

The medical profession as a whole, including hospital administrators and personnel, likewise have reason to look at the SUPPORT study as a wake-up call. Committees and groups are now considering interventions more likely to bring about change than those found ineffective in the survey. Programs in palliative care and forms of collaboration with hospice programs are at last receiving more widespread attention. This is all to the good. But far more immediate action is also needed in hospitals, for the sake of patients

already in the critical predicament described in the SUPPORT study. It is urgent that not a single patient should be placed at risk of suffering needlessly when death approaches by having his or her refusal of particular treatments ignored, or by being denied adequate pain relief.

On these scores, both proponents and opponents of euthanasia and physician-assisted suicide can surely collaborate in pressing for more conscientious honoring of existing guidelines and laws, affecting far more individuals than those who desire to have their lives ended. On both sides of the debates, participants have reason to ask why more is not done for patients nearing death in our own society, one of the richest in the world, with many superbly trained health professionals capable of delivering the most expert medical care.

On both sides, moreover, caution is surely warranted when it comes to reliance on laws, new or old, to ensure humane care at the end of life. Looking back at my conclusions in 1970, I find that more Americans are now aware of the risks they confront unless they can opt for treatment through hospice and palliative care programs. Polls show that the great majority would prefer these, were they available, to any form of suicide or euthanasia.

I find, too, that the risks we will run if we legalize the forms of physician-assisted suicide now under consideration in the courts are stronger in our society than when I first wrote. Domestic violence and elder abuse have increased. The financial pressures on families and the inequities related to medical care are greater. Our health care system is undergoing shifts providing powerful incentives to minimize costs without, as yet, clear evidence that the interests of the most vulnerable are adequately protected. Physician impairment has been documented as more serious, more common and more persistent than was known earlier. And the levels of trust between health pro-

fessionals and consumers have diminished.

Given these conditions, our society is hardly an ideal one in which to experiment with legalizing euthanasia or physician-assisted suicide. Our first priorities must be to protect existing rights of patients, to collaborate with the many who struggle to wipe out the worst and most inhumane maltreatment, and to improve and cultivate the best forms of humane treatment at the end of life. ❧

Sissela Bok, PhD is a Distinguished Fellow in the Harvard Center for Population and Development Studies, and a former professor of philosophy at Brandeis University. This is excerpted from two lectures: the George W. Gay Lecture on Medical Ethics at Harvard Medical School, May 21, 1996 and the October 28, 1996 Castle Lecture at Yale University.



Beds of Death, from The Disasters of War
Francisco Jose de Goya y Lucientes—
1746-1828, 1951 Purchase Fund,
courtesy, Museum of Fine Arts, Boston

Death on the Streets

by James J. O'Connell

JUST AFTER MIDNIGHT ON JULY 4TH the outreach van workers and I were stunned by the makeshift memorial near Jack Anderson's park bench in Commonwealth Park near Kenmore Square. A rose had been tacked to a nearby tree, along with a picture of Jack, just above an arresting image of a grizzly bear on a card inscribed by street friends and neighbors, including the children who play in the park.

Jack Anderson, known to all of us as "Bear," had been found dead next to his bench a few days earlier. He and Indian Jimmy had suffered head trauma and rib fractures in a car accident in early June, and both had been sent from the hospital to recuperate at the Barbara McInnis House near Eggleston Square, our 50-bed sub-acute care facility that serves as an alternative to hospitalization for homeless men and women. A week before his death he absconded and found his way back to his makeshift home in the park. When we brought him soup and sandwiches late the next night, he politely resisted all entreaties and bribes to return to McInnis House or one of the shelters. The whiskey had restored his familiar boisterous laugh and gruff demeanor, and he proudly growled that he was "back in the lair where I belong."

Jack had wandered Kenmore Square and Back Bay with a pack of insouciant postmodern exiles, characters with local color worthy of Bret Harte's *Goldrush* campfires, scornful of traditional society and barely surviving at its cruel and bitter fringes. I've spent many nights over the past decade working on Pine Street Inn's Outreach Van, a literal lifeline of soup and sandwiches and blankets to these fiercely independent individuals who sleep in the streets and parks, on fire escapes and grates, under bridges and highways, and near the banks of Boston's Muddy and Charles rivers.

They view their ostracism with biblical nobility, angrily acknowledging their banishment to wander the urban desert as prophets unfettered by material possessions and shunned by their own families and people. Many street names echo this theme: Simon the Elder, Isaiah with AIDS, Matthew Zion, Ezekiel from Cuba. The eccentricities are spellbinding, much like "the subterranean . . . the twilight characters of the metropolis" in Joseph Mitchell's *Up in the Old Hotel*. No doubt Joe Gould, the drinker struggling to complete his translation of Longfellow's poetry into the language of seagulls while awaiting the publication of his magnum opus, "An Oral History of Our Time," spent his share of nights sleeping in Boston Common.

I'm not sure how or when Jack Anderson came to be called Bear; some thought it went back to his days in the U.S. Marine Corps, others suspected a self-chosen sobriquet to protect the shroud of mystery surrounding his life. Whatever the origin, the ursine myth was embellished with characteristic aplomb. A thick red-brown beard matched his burly persona, while he often boasted of "hibernating" on the Boston University grates during the coldest winters and subsisting on garbage raids along the Back Bay alleys. A no-holes-barred street brawler, Bear had innumerable visits to the emergency departments of Boston City and

Massachusetts General Hospitals for stab wounds and head trauma, where he alternately charmed and exasperated his caregivers with his laughter and cockiness.

Bear always claimed Denmark as his birthplace in 1963, and some "good and loving folks" had adopted and raised him near Norwich, Connecticut. He spoke of a stint in Norwich State Hospital when he was 17 "for violent tendencies." Drinking and disorderly conduct resulted in a dishonorable discharge from his beloved Marines, and he survived by working as a bouncer, construction laborer and security officer. Jack Anderson was not his original name, but rather his proud and not-too-subtle American version of Hans Christian Andersen. His life was legendary on the streets, but hardly a fairy tale.

We never found that original name, and Bear's body still lies unclaimed in the city morgue. In a few weeks, if no relatives come forward, the medical examiner will release him for burial in the pauper's cemetery alongside countless other homeless men and women who have died on Boston's streets.

Death is a quirky but steadfast presence in the shelters and on the streets; over 700 of our patients have died since we began the Boston Health Care for the Homeless Program almost a dozen years ago, a staggering number for any general medical practice that cares for 6,000 people each year. The litany of causes is legion and complex: exposure to the extremes of weather and temperature; the spread of communicable diseases, such as tuberculosis and pneumonia, in crowded shelters with inadequate ventilation; neglected chronic illnesses; horrifying violence; the high frequency of co-morbid medical and psychiatric illnesses; the ravages of substance abuse; inadequate nutrition, to name only a few. Homeless individuals and families are the most impoverished of our urban poor, and suffer



Jack Anderson memorial

all the well-described health risks attendant to persistent abject poverty.

Boston's shelters traditionally hold a service for each deceased guest, with a funeral and burial arranged when no family can be located. The services are profoundly moving, attended by staff, friends, and other shelter guests. Forgotten souls, weary pilgrims of America's streets and alleys, forsaken by reason or sobriety or luck, are afforded the dignity of a memorial service, a belated chance to be recognized and appreciated, and a final permanent resting place of one's own. Unruly drinkers and unkempt street-dwellers wash, shave and don suits and jackets gathered from the clothing rooms to attend a service in honor of one of their own. Proud pallbearers are chosen, and guests are transported by van to the church and the graveyard. Tears flow from places long fallow, while the presence of death becomes a gentle and almost soothing reminder of the ultimate equality and destiny of humankind.

Four hundred people attended Joe Daley's funeral at Christ the King Church in Woburn in May of 1988. Joe had been a drinker for as long as anyone could remember. Three packs of cigarettes a day for over 40 years had probably caused the lung cancer we diagnosed about six months before his death. He had come to see me at our Boston City Hospital clinic after he had lost over 30 pounds, and explained that he had his "usual hacking cough" but could not eat or sleep. A chest x-ray showed that his right lung was filled with fluid, and only then did he admit to me that for months he had been barely able to breathe when he lay down to sleep at night.

We drained several liters of bloody fluid from his lung, and he called me a hero after he slept soundly for eight hours that night. But the cytology showed malignant cells. Two weeks was about all he could tolerate in the hospital, pleading all the while to go back to the familiar surroundings of

Pine Street Inn. He worked on the live-in staff, sorting donations to the clothing room and helping out in the kitchen, and shared a room in the tower with Eddie Sweeney, another feisty South Boston Irishman and, like Joe, a veteran of the Korean War.

The prognosis was guarded, probably several months at best. After our discussions with the oncologists and Joe, the staff at Pine Street allowed him to return for hospice care. Joe was able to work several hours a day when he returned, and he came to the nurses' clinic for medications several times each day.

After five good months, he became too feeble to get out of his chair. The live-in staff brought meals to him, and the nurses volunteered to sit through the nights with him. The pleural effusion had begun to accumulate again, and Joe was becoming more short of breath. The cancer had spread to his bones and liver, and his intense pain required increasing doses of morphine.

Peggy Thornton paged me just before midnight one Friday in May to let me know that he had stopped breathing. I had been sharing stories at Doyle's Pub in Jamaica Plain with Barbara McInnis, a heroine of mine who was one of the original clinic nurses at Pine Street Inn (and after whom we later named our respite facility), and we drove to the Inn to officially pronounce him. Joe had spent a peaceful day, and Peggy said he simply went quietly to sleep. Bill Mulrenan—a remarkable volunteer at the Catholic Worker's Haley House in the South End who had befriended Joe many years ago and invited him to holiday meals with his family—drove in from Woburn, having already notified the funeral home. Lauretta Woods, the supervisor of the live-in staff who had so staunchly supported Joe, came immediately from her home in Revere. Donna Scarpa, the clinic's head nurse who had provided much of the energy required to care for a dying person in a shelter setting, rushed over from her home near Worcester Square.

*Unruly drinkers
and unkempt
street-dwellers wash,
shave and don suits
to honor one of
their own.*

I remember sitting with this exhausted and devastated group, marvelling at the obscurity in which they accomplished these quiet miracles. Six months ago Joe Daley had been frightened and alone, fully cognizant of the imminent end of a life he had botched. Bill and the shelter staff allowed him to orchestrate his own death on his own terms, and Joe died a peaceful and unbroken man.

Most of the other deaths have been far from peaceful, and I would like to share a few of these experiences.

Loretta B. stopped by the clinic one morning strung out on heroin and seeking a detox bed. No methadone beds would be available for a week, and she had no choice but to tough it out or keep using drugs until then. She was dismayed and fearful that she did not have the strength to steal or turn enough tricks, and she had "tons of debt and a slew of enemies out there." Loretta brought the *Boston Herald* article detailing the discovery of her friend Dawn Ruffin's decayed body in a Rockport dumpster. She had been with Dawn the night she stole money from her pimp, and he had publicly punished her in front of Loretta and two others by amputating her right arm with a machete, removing the only part of her body that had accessible veins. No one was ever charged with the murder. "Drugs," moaned an inebriated Loretta, "are very scary shit."

Arthur H. had been coming intermittently to the clinic for many years, usually after taking a "header." Arthur was in his early 40s, learned, articulate and provocative, an observant chronicler of wasted lives and falls from grace, and a self-proclaimed "drunk and bum." His pleasant smile usually accompanied a blackened eye and variably-placed facial sutures. While his imposing 6-foot-5-inch frame underscored his patrician manner, the "headers" were actually withdrawal seizures, and I still cringe at the memory of his skull cracking against the sidewalk after the rigid fall from that height.

Usually very private about himself, Arthur was agitated when he came to the clinic in September of 1989, and it was to be the last time I saw him. "I slept on a cot last night, the last one in line, next to the wall and just under the clock and the television set," he told me. "When I woke up this morning, the young fellow next to me was dead, apparently of internal bleeding. He was brought in by the cops and the EMTs in the middle of the night and dumped in the cot next to me, 22 years old. His name was Paul, and he had liver problems. Now I've never seen ambulances bring people to the shelter before, and I thought that very strange indeed. As you might imagine, I've seen hundreds of ambulances come to take people away, but I've never before seen them bring people to the shelter. Tragic. But I'm used to tragedy. I never met the guy other than in his final response!"

Arthur became exasperated, let me renew his blood pressure medication, and stormed off into the New England autumn. Two mornings later he was found bludgeoned to death a few blocks from the shelter, identified only by his fingerprints.

Louie S. had first come to see me in 1986, shortly after discovering that he had tested positive for HIV antibodies. After graduating from a nearby high school as a three-letter star athlete, he joined the army during the Vietnam

"I'm slowly coming to grips with who I am, and I know clearly that I've just been along for the ride all these years."—Louie

era. To his chagrin he was given a tour in Spain and saw neither action nor Southeast Asia, but still was introduced to intravenous drugs, escalating rapidly to a \$200 to \$300 per day heroin habit. He lost interest in all else for the next 17 years.

Ruggedly handsome and an imposing 6'4", Louie was an Irish charmer and one of five children. In the mid-1970s, after failing to reconcile with his family, he retaliated by taking a shotgun and firing point blank into his abdomen, splattering his spleen and perforating his small intestine. As he sheepishly admitted, he never wanted to kill himself, but rather just mutilate and maim.

A younger sister had been his closest friend, and in some contorted gesture to help her escape a failing marriage, he introduced her to heroin and life on the streets. Several years later she was found raped and killed in a back alley of the Combat Zone. The killer was an escapee from a psychiatric institution. Louie never recovered from that loss, and saw himself forever guilty of that murder. We had spoken many times about this, and I recall the unspeakable horror in his eyes as he pulled a tattered *Boston Herald* from his pocket and cursed himself and all the world for the prurient headlines eulogizing his beloved sister: "24-Year-Old Prostitute Killed in Zone. Naked

Victim Found Raped and Strangled in Dumpster."

Louie headed to the streets and quickly got himself arrested after shoplifting several bottles of Tylenol, worth \$2 to \$3 each on the street. Louie had explained to me some time ago how one could support a large heroin habit by shoplifting innocuous items worth less than \$50 in total, assuring only a misdemeanor if caught. The following morning he was found in his cell hanging by his belt, cyanotic but still breathing. Rushed to the hospital, he suffered a respiratory arrest en route and was successfully resuscitated in the emergency room. After a week in the ICU, he was transferred to a psychiatric facility. Upon discharge, he came directly to see me in the hospital clinic. He appeared exhausted and cachectic, but his mind was characteristically sharp and incisive.

"It's just too much. This god-damned death sentence is just too much to handle. I have no family, my friends have deserted me, I can't even sleep with my girlfriend without thinking I'm about to kill her. I've been cursed all my life and now the curse is literally running through my blood. I'm addicted to drugs, and I now realize I'll never shake it...but then again, why should I now? But it's funny, I'm slowly coming to grips with who I am, and I know clearly that I've just been along for the ride all these years. I've never contributed anything. I've never taken control of anything in my life."

While Louie had not shown any signs or symptoms, he had been told that without his spleen the risk of progressing to clinical AIDS was greater. And he was keenly aware that he had destroyed his own spleen with a shotgun blast, almost in prophetic preparation for the virus through which reputation and salvation would be wrought. The writing was on the wall.

"The only war I've ever waged has been against my own body and my own cursed genes, and I've done a damn good job. All addicts have a

death wish. We are all enslaved by our habits, and the thought that some virus hidden in our works might finally release us can be welcomed and embraced during those horrible moments of drug sickness before the next dose. But don't worry, Doc, I know that there's nothing you can offer, and I don't blame you a bit." He had me very worried.

Three weeks later, on August 31, Louie cashed his SSI check, left a note for his girlfriend, and injected enough heroin to end his war and declare a final peace. ❧

James J. O'Connell is director of the Boston Health Care for the Homeless Program, which runs clinics for homeless persons at Boston Medical Center, Massachusetts General Hospital and over 40 shelters in the Boston area.

Give Me a Doctor

by W.H. Auden

Give me a doctor, partridge-plump,
Short in the leg and broad in the rump,
An endomorph with gentle hands,
Who'll never make absurd demands
That I abandon all my vices,
Nor pull a long face in a crisis,
But with a twinkle in his eye
Will tell me that I have to die.



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"Good Night, Willie Lee, I'll See You in the Morning"

by Alice Walker

Looking down into my father's
dead face
for the last time
my mother said without
tears, without smiles
without regrets
but with civility
"Good night, Willie Lee, I'll see you
in the morning."
And it was then I knew that the healing
of all our wounds
is forgiveness
that permits a promise
of our return
at the end.



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the Morning," copyright (c) 1975 by Alice
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Nocturne

by George S. Bascom '52

Understand—
I'm running out of time for
triviality and cleverness.
Dying takes some thought.
At night, lying behind closed lids
and in the soft safe comfort
of the bed and God,
I find a peace that seems
to lead on toward timelessness;
toward—can it be so?—a state
where space and eons do not matter,
where the beginning and the end
are close as now
and part of it.



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The Death of Socrates

Jacques Louis David—1748-1825

The Metropolitan Museum of Art,
Catharine Lorillard Wolfe Collection,
Wolfe Fund, 1931.

Risky and Nonrisky Acts

by Sidney H. Wanzer

MANY PERSONS EQUATE PHYSICIAN assistance in dying with physician-assisted suicide or euthanasia and therefore assume that assistance in dying is legally or ethically risky for the providing physician. The most common form of assistance in dying is simply the provision of good medical care to a person who is at the end of life. This care is noncontroversial and free of risk, contrary to assisted suicide and euthanasia where risks are clearly present. Nevertheless, physician assistance in dying is beset with problems throughout the spectrum of treatment—with risks perceived in all areas. These perceived and actual risks can lead to physician inaction that is often inappropriate.

RISK FREE AND EASY

I have been impressed again and again that some actions that are the simplest, least controversial, and most free of risk are not used. This was brought home to me clearly a few months ago in the following office visit.

She was a charming woman in her mid-70s, obviously extremely devoted to her husband, who had suffered a very bad stroke last year. She spoke of him lovingly and gently. Her son accompanied her to my office and I was instantly won over by both of them. The husband must have been a wonderful man to have such a wife and son.

She had been referred by a colleague of mine who had called to ask

to whom in the community he could refer them for a discussion about their options at the end of her husband's life. For many months he had been unable to speak. Communication was reduced to questionably meaningful nods of the head or looks. He choked on food and water, and was fed via a gastrostomy tube. He had had repeated aspiration pneumonia that precipitated hospital admissions and antibiotics. There was a long list of many fine institutions he had been in, beginning with a tertiary center where he was on a respirator, ending with his present nursing home. No one doctor was clearly in charge. Whenever he had a threatening fever or respiratory difficulty, he would be hurried back to either an emergency room or hospital ward for aggressive treatment. He remained totally, completely and hopelessly disabled.

She was confused as to what she should do. She had a properly executed medical proxy that gave her complete authority to speak in his behalf, but she did not really understand that power. She was distressed at his predicament and felt desperately that something needed to be done.

We talked for an hour, and I gave her my thoughts. As they left, both expressed profound appreciation for what I had told them and said that no one had ever spoken to them about those suggestions. They left with new resolve to address his predicament in a different way, and they seemed

relieved and somewhat encouraged.

What had I told them? I discussed what to me were simple concepts and plans of action, yet things they did not know.

- Do not feel guilty about a firm decision to render comfort care only. He is not going to die from your saying no to further aggressive intervention. He is dying from his stroke.
- It is acceptable to stop unwanted treatment. There is no difference between stopping a treatment and not having started it in the first place.
- Define who is in charge. It should be one doctor.
- "Do not resuscitate" orders are common.
- The proper dose of pain medication is the dose that relieves pain, even if this were to shorten life.
- The patient, the ultimate authority as to what is to be done, is now included in the medical decision-making process in a meaningful way that never used to occur in the era of the paternalistic physician. If the patient cannot participate in medical decision-making, a duly designated agent has that power.
- It is appropriate for both patient (or agent) and caretakers at some point to adopt a goal that states that the aim in care is not to restore health, but to give comfort only, and to assist the patient in the dying process.
- Above all else, define the goals of treatment.

In the last ten to fifteen years pre-

cepts and actions have developed that are legally and ethically possible in assisting a dying patient. These are all now noncontroversial, and my statements to the family represented some of these concepts. This family had relatively easy needs that could be satisfied by these precepts, yet they were unaware of what could be done because no one had sat down with them to discuss the possibilities. Not one of these options was controversial or legally risky, and assisted suicide or euthanasia was never mentioned. The principal thing lacking was definition of the goal.

This story reflects a gap between what we say is all right to do and what we actually do. This gap is a major problem that too often stands in the way of a peaceful death, a conclusion that was dramatized recently by a Robert Woods Johnson study that highlighted the failure of many physicians to provide adequate comfort care for the dying.

THE PERCEPTION OF RISK

For the physician there are no risks associated with implementing the actions I suggested, yet the fact that no one had reviewed them with the family suggests that the caregivers perceived some risks. These perceived risks may lead to inaction by the physician due to fear of the consequences, and needless suffering by the patient and family. These perceived risks include:

- *I may be criticized by my colleagues or family for not pushing ahead.* This is never a problem if the goal of assisting in dying is carefully defined.
- *I may be criticized for not pushing for treatment aimed at restoration of health.* We should base our actions on what is likely to happen and not strive for outcomes that have little chance of success. We should act on probabilities.
- *I may be sued for withdrawing life-prolonging measures or not initiating treatment for pneumonia.* This is never a problem in a dying patient when the goal is defined and agreed upon.
- *I may be criticized for not giving sufficient fluids to alleviate thirst.* This is not

a problem in the dying patient, contrary to what many believe.

Most lawyers would agree that the risks when dealing with these questions are nonexistent for the physician when good medicine is practiced in good faith, the problem is clear, a competent patient or agent has agreed, the physician acts at the behest of the patient and negligence is absent. The safest legal route for the physician is simply what is best medically for the patient.

THE RISKIER END OF SPECTRUM

More risk for the physician does arise as one moves toward the assisted suicide end of the spectrum of care. These risks should be rare, however, since physician-assisted suicide itself should be rare if the care of the dying patient is ideal. A reasonably peaceful dying should be possible if the physician offers meticulous attention to details of comfort care, assurances that the patient will not be abandoned, truly effective pain relief, and strong psychosocial support.

Planning for the End

Physician-assisted suicide is a thorny issue within the medical community, one that generates strong feelings on both sides of the aisle. Linda Emanuel '84 found herself in the midst of the debate when she took a two-year leave of absence from HMS to launch the Ethics Institute at the American Medical Association and serve as the AMA's vice president for ethics standards.

Although Emanuel, HMS assistant professor of medicine and social medicine and assistant director of the HMS division of medical ethics, has a new job, her research has focused on end-of-life issues for the last ten years. Specifically, Emanuel has written on advance care planning, a

process whereby patients make decisions about what medical care they would want if faced with a life-threatening illness or injury. This is done with the patient's doctor and surrogate—the person designated by the patient to make decisions when the patient no longer can. The patient, doctor and surrogate all sit down together to discuss and then document the patient's wishes. The result is an advance directive, although not all people who have advance directives involve a surrogate or even their doctors.

Advance directives have two components: documentation of a patient's wishes, or living will; and a designated decision-maker by proxy. Some states

have a living will statute in addition to or instead of a health care proxy statute. Even in states with no living will statute, personal statements should be honored under constitutional law.

To facilitate planning for end-of-life care, Emanuel has developed a worksheet that outlines several end-of-life circumstances a patient could face in the future. This validated worksheet has been researched to ensure that it covers all relevant issues and framed so that responses automatically reflect patients' preferences. It is likely to get the same response if the patient is questioned, and is applicable in the clinical setting.

However, in a few instances in one's career, a physician will be faced with the situation in which all of these measures have been attended to, and the patient still faces intolerable distress and indignity, such that ending life becomes the best option and the proper treatment. I speak of this as a treatment, which in my opinion it is, but it is a treatment that may entail some actual risk for the physician.

How much risk is associated with assisted suicide depends on what state one practices in, whether the act is public or private, what the attitudes of the local district attorneys are, and how much unanimity there is among the family and caregivers surrounding the patient. The amount of risk the physician can comfortably tolerate also enters the equation. These variables obviously lead to many possible scenarios.

It is hard to categorize precisely the legal situation in the various states, but Hemlock Society USA estimates there are 34 states in which assisted suicide is criminalized by statute, ten in which

The safest legal route for the physician is simply what is best medically for the patient.

it is a criminal act by common law, five in which it is unclear, and one in which physician-assisted suicide has been legalized but is being challenged in court. In states with no statutes on the books, case (common) law could be applied and a prosecutor might bring charges for assisting in suicide based on precedent from prior cases. The risk of this happening is hard to define and depends greatly on interpretation and the individual district attorney. If suicide is not a crime in a given state, then assisting in suicide cannot be, but

the prosecutor might make a case for some form of homicide (probably involuntary manslaughter), citing reckless behavior.

Those who are not lawyers often feel there must be a legal justification for "mercy killing," but this is not so. Persons charged with mercy killing may not be convicted, but this is not for lack of law (it is illegal). Rather, prosecutors do not prosecute or juries do not convict (they identify with the motive).

In states without statutes against assisting in suicide, another avenue of charges could be through civil actions. Every state has a wrongful death statute that involves reckless actions or negligence and a noncriminal suit for damages might be filed, but practically speaking, this does not happen. Lastly, a person who feels aggrieved could bring complaints to the state medical society, requesting disciplinary actions. Again, this avenue is rarely used.

How likely are these risks? They are very low if the physician acts in accordance with the wishes of a com-

Going through the worksheet step by step and considering these potential scenarios is what Emanuel terms a "structured deliberation." Through the years, Emanuel has seen that the deliberations serve more for the surrogate than the patient, since it will be the surrogate who will act on the patient's behalf. Although sometimes these preferences are overridden or ignored, no doctor has ever been sued for following a living will.

Emanuel believes that advance care planning should be woven into routine clinical encounters and evolve over time, with the final document reviewed periodically by all the parties. She also thinks it should become standard in the physician/

patient encounter, like taking a patient's history. "I initiate this conversation at approximately the fifth routine visit with most of my patients, and then it becomes a routine matter to refer back to or update our plans for future care. I find it strengthens the patient/doctor alliance wonderfully." Ideally advance care planning should be initiated by the primary care doctor or whoever is at the center of the patient's health care team and should take place before serious illness or injury has occurred.

Getting to the point of planning for death is not something that comes naturally to either doctors or patients—only 20 percent of people actually have advance directives. "We live in

a death-denying culture. We have bought into the idea that we can triumph over death," says Emanuel. "We don't teach doctors how to talk about death or plan for it. The usual model of 'see one, do one, teach one' does not occur. Doctors have a special duty to put it right."

"Putting it right" is both a goal of Emanuel's and the AMA's, which hopes to improve the rate of discussing and planning for end-of-life care through training programs for doctors across the country. With this training, every doctor would be skilled in advance care planning and palliative care, as well as in recognizing depression, the treatment of which may prove to reduce the number of

requests for assistance in dying by terminally ill patients. This was a conclusion from a study led by Emanuel's colleague (and husband) Ezekiel Emanuel '88, which showed that terminally ill patients who are depressed are more likely to ask for help in dying. Further research is necessary to confirm these results and determine if treating depression would indeed have an impact on these requests.

Emanuel notes that advance care planning is the backdrop for the current debate about physician-assisted suicide but states that it is a "false debate." "The real issues for patients concern controlling their pain, not being a burden to their family and not feeling

petent patient, the family has been in support, and the act has been nonpublic. There has never been a conviction of a physician for assisting in suicide when these conditions are met. When the act is not secret, risk increases, but still, only one physician has been convicted. In one other well known instance involving a publicized act, Timothy Quill, an internist in Rochester, New York, was charged by the local district attorney, but the grand jury refused to indict.

COVERT ACTIONS

Regardless of the law in any given state, assisted suicide in this country currently entails little risk to the physician if actions are private; however, that is a big "if." In order to be certain of no repercussions, the action must be strictly private, which can be difficult to ensure.

Relying on secrecy to keep the physician out of trouble is risky in two ways. The attempt at secrecy may fail, and the opportunity for consultation and support from colleagues is not

My brother never used the pills, but they were a great comfort to him.

possible. The latter puts the physician in a more vulnerable position of acting unilaterally, without collegial support—always a more risky position. Both the patient and the physician can benefit from consultation and advice from other professionals. A law regulating physician-assisted suicide would solve these two problems.

THE RIGHT COMFORT LEVEL

In addition to the minimal legal risks of assisted suicide, there remains the risk of the physician having misgivings in retrospect. We have to live with what we do. I believe that this risk of

conscience is very small if the situation demands the action in the first place. No assistance should be provided in the absence of a situation declaring itself positively, namely, there is absolutely no other way to avoid extreme suffering.

Even so, the best of caregivers can have great pause before acceding to a request for assisted suicide. It is not a light request. I recall the ambivalence I felt in the instance of my older brother's death. About seven or eight years ago he was dying with metastatic carcinoma of the lung and I planned a goodbye trip to North Carolina to see him. Several weeks before my planned visit, I sent him a draft copy of an article I had coauthored, outlining the proposition that assisting in suicide could, under certain circumstances, be an ethical act.

He telephoned me to say urgently that that was what he wanted and asked if I would bring him some pills when I came. I said I would. When I walked into his bedroom a short time later, he was sitting bolt upright in

abandoned. We should be improving quality care of the dying and access to it before considering assisted suicide as a legally and medically endorsed option. We have a long way to go still."

Emanuel says that it is rare for doctors to be asked to assist in ending a life, with most only asked a handful of times during their entire careers. She personally has had two patients who asked her for help in dying. She responded by doing advance care planning with both patients, after which neither had the request. "Patients can refuse life-sustaining intervention and have more control. They see this once they go through advance care planning."

There is a lot on Emanuel's plate as she and the AMA set out to improve the quality of care of the dying and formally oppose physician-assisted suicide. A coalition of over 20 local, state and national medical organizations has been convened. In addition, the AMA petitioned the Supreme Court to consider reviewing the 2nd and 9th U.S. Circuit Courts of Appeals cases that declared state bans on physician-assisted suicide to be unconstitutional. The Supreme Court has agreed to take these cases, so the AMA will now submit a brief to persuade the court that physician-assisted suicide should not be considered a constitutional right.

Emanuel is immersed in an issue that has not just captured the medical community's attention, but the general public's as well. This is in large part due to Jack Kevorkian, the former pathologist who is not camera-shy when it comes to his role in helping people commit suicide.

"Kevorkian is using a much more controversial standard than most advocates of physician-assisted suicide. His standard is if people want it, they get it." Emanuel comments that one of Kevorkian's most publicized cases (involving a woman from Massachusetts who had depression and two nonfatal illnesses, fibromyalgia and chronic fatigue syndrome) demonstrates what can occur

in the absence of legal and professional boundaries. "This can happen to vulnerable and disempowered groups. Kevorkian has killed two times as many women as men. What about patients who are silent, intimidated, fearful of a profession that agrees to help depressed people die?"

Emanuel observes that although the dilemma of physician-assisted suicide has been around since before Hippocrates, it is once again time for the medical profession to articulate professional values about it. Emanuel, who moved to the AMA's headquarters in Chicago with her husband (who commutes to his position at Dana-Farber Cancer Institute) and their three chil-

bed, obviously in great distress due to uncontrolled pain. His very first words to me were not of greeting, but simply, "Did you bring the pills?"

I was not certain of the law in North Carolina or of the reaction of his children (all adult) were they to know of this possible action of his and mine. His wife was in agreement with whatever he wanted, but she did not want their children involved in the decision. I was uneasy about not having the children's participation and felt there might be undefined legal risks to me since I did not know the law in North Carolina. These risks were probably small since no one else was involved other than my brother, his wife and me—it was not a public act. More important were the risks to my own personal ease. If he took the pills and the children were not involved, there could be psychological consequences.

As it turned out, the whole question was moot. Pain medication was upgraded drastically, pain control was established within the next 24 hours,

dren, is sensitive to the complexity of the debate.

"Is physician-assisted suicide ever right?" Emanuel ponders out loud. "I can theoretically imagine intolerable suffering and imminent death, yet I have never seen a case of patient suffering that could not be handled by aggressive palliative care. Loss of trust in the profession will become tangible if physician-assisted suicide becomes common."

Janet Walzer

and my brother died reasonably peaceful a week later.

My brother never used the pills, but they were a great comfort to him. He kept them immediately at hand in his bedside table and they clearly gave him a sense of control, which made all the difference in the world. We were able to have a number of good conversations about life—and death—in that week.

Those risks I courted were mostly perceived risks, not actual.

MODEL LAW FOR PHYSICIAN-ASSISTED SUICIDE

Most of the problems at the riskier end of the spectrum of assistance could be avoided if these actions were regulated by law. We need to have the option of performing assisted suicide that is openly considered and guided by legally prescribed procedures, such that there are no perceived or actual risks to the physician or to the patient and family, as long as established guidelines are followed. A group of Boston physicians and lawyers recently published a model law that addresses this need (Baron CH et al. A model state act to authorize and regulate physician-assisted suicide. *Harvard Journal on Legislation*. 1996;33:1-34), and there is much interest and effort in other parts of this country and abroad. In Australia a recent statute has been enacted that permits physician-assisted suicide, and the first death under that statute just took place.

CONCLUSIONS

The most commonly needed assistance the dying patient requires is physician counselling about the available options for noncontroversial care, given in nonhurried conversation. This incurs no legal or psychological risk. Often these simplest options are not discussed sufficiently and the patient remains poorly guided.

In the very infrequent situation in which assisted suicide is the only answer for intolerable distress, the physician runs very little legal risk if the assistance is given covertly, but there are drawbacks to secrecy. Risks increase as the action becomes more public, but variably so, according to differing state law.

Medically-assisted suicide is an option that needs to be available to patients for whom suffering cannot be relieved. This treatment needs to be recognized and guided by new state laws that will reduce legal and psychological risk for both physician and patient. ❧

Sidney H. Wanzer is clinical director of Harvard Law School Health Services. He would like to acknowledge Professor Charles Baron, Professor James Vorenberg, Professor Alan Stone, Mr. Sidney Rosoff, and Ms. Helen Voorhis who kindly offered helpful suggestions and statistics.



Divine Personification of Death: The jackal-headed Egyptian god Anubis touches the soul of the man while the mummy on the left is the receptacle for the man's body (30BC-AD395). Louvre, Paris.

A Good Death

by Howard M. Spiro

MY 50TH HMS REUNION IS SLATED FOR the spring of 1997, so I fear to test the irony of fate by writing about death or end-of-life decisions. Still, at the antipodes of Yale two years ago, a colloquium, "Ars Moriendi," brought together physicians who treat dying people—the young who die too early from AIDS and the old who die too late—with theologians and historians, who can give death its context. That memorial service on the "ways of dying" has been collected in a new book, *Facing Death—Where Religion, Culture and Medicine Meet*. I am glad to relate some of what I have learned from putting together that conference and book.

We all die, but doctors rarely talk about death. Each of us dies only once, and we get little chance to practice. Few modern Americans—unlike their Puritan predecessors—prepare for that final episode. People live so much longer than before that death has come to seem a disease that can be indefinitely postponed, a denial confirmed by the adoration for youth everywhere around us. The old or middle-aged so rarely appear in our magazines and television that one wonders what advertising might have done for Jonathan Edwards, and whether the "fiery pit" might have become an icon. Surrounded by images of the young in all their exuberance, we almost never talk about death.

Death was no stranger to the house staff of the old Peter Bent Brigham Hospital in the 1940s; when patients were lined up on either side of wards E- and F-main, drawn curtains told the story. Then, dying was usually

short and merciful. Patients with a heart attack went quickly when all that we could do was inject epinephrine into the heart. More than once, I heard tell, plugs were pulled on the "iron lungs" that kept some polio patients breathing whom the doctors judged better off dead.

"To cure sometimes, to care always" was our guide, as it has been to physicians for generations. The astounding development of science and technology that began in the 1950s contorted those duties and turned caring into a very long battle against death.

As the millennium rolls around, patients with heart trouble now leave our hospitals with coronary arteries braced open by stents or rearranged by surgery, to live happily much longer—and they die much later from less merciful cancers or dementia. Improvements in public health and social conditions have also greatly widened the lives of the growing number of old people over 80. Last summer, my wife and I, who circle the further side of 70, took three 91-year-old relatives out to lunch with no more sensation in the restaurant than if we had brought along three teenagers.

In the fifties and sixties, doctors cared for the dying without the traditional help of the clergy, partly because the clergy were abandoning the hospitals or taking on the ways of social workers or psychiatrists. They left to us the ethical questions that came from our powers as the newly minted "ethicists." As American medicine moved from being the province of an almost entirely white and Protestant middle class, the growing diver-

sity of faces and opinions made discussion of end-of-life problems from a religious standpoint seem prejudiced.

Yet many new issues need contemplation. Along with the growing numbers of the very old and dependent come a large number of infants born "prematurely," a term whose limits keep shrinking with new ways of preserving life. The growing number of patients with AIDS, with their at first unfathomable diseases, add to the medical dilemmas, while violence brings a new and dreadful plague.

Our technology has forced people to give up the right to determine when and how they die. To die at home, face to the wall, to stop eating, is—modern science again confirms—a comfortable way to go, one still possible at home or hospice. But in the bright lights of the hospital, this personal decision "morphs" into the "decision-making process," which involves ethicists, medical care workers, lawyers and administrators.

Hospitals are poor places to die, and even worse to mourn. My own institution sprawls over three huge buildings, but our chapel, so ecumenical as to seem secular, takes up less than 20 by 20 feet. There is no place on our wards for people to pray or think in private. As death has moved from the home to the hospital, from clergy to doctors, families are kept far away behind barriers.

The growing numbers of the slowly dying have forced discussion of euthanasia to the fore. Certain that doctors should never kill, many worry about why doctors are needed for euthanasia. Physicians who relieve patients in pain, even if it slows or

stops their breathing, are not killers. Physicians may even help their patients choose the means and circumstances of their final hours. But a doctor seems as unnecessary for the final act as for the execution of a criminal. Indeed, the ritual of swabbing the injection site before execution must be intended to simulate a medical act.

Some take the position that things are okay as they are: doctors fearing prosecution do not unduly yield by prescribing soporifics to patients who want to kill themselves. Others, nurse practitioners prominent among them, argue that doctors usually do not know enough about their patients, let alone about death or dying, to make such decisions, and the 1995 SUPPORT study confirms that. Our major expertise often seems to be an ability to write the final prescription.

Within limits, physicians can judge who is beyond help and who will soon die; beyond that, we physicians have attended too little to the humanities and to life—let alone death—to make such awesome final deliberations for others. Still, involved as we are in those final decisions, doctors must learn to understand death and dying, and that involves life and living, as well.

Winnowed by academic success in high school, trained as scientists in college and medical school, inspired to action not reflection, physicians confront death as defeat. We lack the intellectual background and the habits of reading and contemplation to confront the new dying, once so swift and now so slow. The agonies of prolonged dying might perplex us, but we rarely talk about such matters in our grand rounds or conferences.

Our colloquium made clear how rarely nonmedical people now witness other people dying: a 50-year-old historian confessed that he had never seen a dead person, let alone someone dying. When death was common, Europeans and Americans had many children because most of them would die during childhood; then no one

*Our patients
“expire,” “go downhill” or they “fail”
treatment, they
almost never die.*

needed a reawakening to death or an *Ars Moriendi*. Now that death is well hidden, lay people as well as physicians must reacquaint themselves with it.

Death has gone from being a ceremony in which everyone participated, because people died at home, a natural phenomenon familiar and acceptable even to children. For many in the West, death was no end but a doorway, “tame” Aries has called it. Now it is the “wild” death of technology when the dying patient is separated from family and friends by a crew of technicians and physicians, and dies alone, for all the hubbub.

Physicians and nurses still know death and dying, but even for us death has replaced sex as the forbidden topic, mentioned largely in euphemisms. We doctors find the death of a patient a defeat, not a conclusion to life, and we seek roundabout comfort: our patients “expire,” “go downhill” or they “fail” treatment, they almost never die.

Memorable remarks that used to echo the deathbed scene are now muffled in hospitals by apparatus displacing the inevitable. Doctors need to be reminded that death can define a life, and may sometimes be welcome.

Technology has made death a purely physical process; the decision that someone is “dead” has become a highly technical and sometimes contentious judgment, no longer of philosophical, cultural and religious concern, but simply a biological matter. Our organs may go on living after we die. Where once pathologists eager

for autopsies roamed the ward of the Brigham to read the records of those close to death, now I hear that transplant surgeons, or their agents eager for organs, search the wards for the “brain dead” to become “donors.”

Doctors ask why a patient has died and what they could have done to prevent that death, but they almost never wonder about a “good death.”

“Premeds” rarely take courses in history, philosophy or the social studies that might enrich their understanding of death, and maybe even of life. In medical school they can dissect the body, but they cannot scan mind or spirit. What they cannot see, doctors do not yet treat.

Death does define life; thinking about death helps us to think about what it is to be a person. To most doctors, dying means only the end of life. The loss of dignity, of a sense of humor, of wonder and imagination concern them far less.

Philosophers may wrestle with the gradual blunting of Alzheimer’s disease; the mind for them is different from spirit and soul. For the religious, death remains a doorway; to talk of a terminal illness is to consider only the death of the body. Each culture imbues itself with different notions of death and dying, yet each person must die, finally, alone, each in his or her own way.

The domains of death lie divided. Physicians and nurses who are the only ones with intimate experience of death and dying have little to do with clergy and historians, for they are too busy to meditate on what they have seen. Death needs no rebirth, but those separate countries need reunification. With the help of theologians, historians and the clergy, doctors and nurses could frame a meaning; the rituals of mourning, funerals, graveyards even, bear witness to humankind’s many attempts to fashion that frame. Funeral directors also have much to tell physicians, who might even find the solace of a good death in attending more funerals than they do.

We doctors read our journals for the latest medical advances, but we rarely read history. Genetics is our current hope, history as well as prophecy, but it looms far more important than any stories of the past, even when they are our own. A five-year-old medical journal is already archaic to doctors who lust after the very newest. In William Harvey or even in William Osler, we find jocose reminders of how far our understanding of biology and physiology has advanced. We rarely read and never discuss Shakespeare or Montaigne, Plato or the Bible (to pick examples from Western culture only) to find how changeless are the passions of humankind.

In the medical intensive care units where the young care for the old, doctors and nurses are ill-prepared for the medical battles that they must fight. Sometimes among the older nurses and doctors a kind of nostalgia grows for the simpler ways of the past: how much easier it was to care for the dying when death was inevitable and came as relief to both patient and doctor. But older doctors come to ICUs only as patients or visitors; they do not contribute to bridging the age and cultural voids that make talk of last days so difficult in our city hospitals.

It is the young who confront sorrowing families to ask for DNR or organ donation. Skilled in the latest algorithms, they know the right remedies, but only slowly do those brave young folk learn to ask why they do what they must. Sometimes they do things that once they could not have imagined to the elderly, who might have been their parents or teachers, or to the young with AIDS or trauma, who might have been their friends. They grow a carapace against emotions going in or out, deprived of the meaning that philosophers, historians, the religious and even the old might bring. Older doctors might not understand much of what goes on in modern MICUs, but they have learned how patients and families feel, and even

how doctors feel.

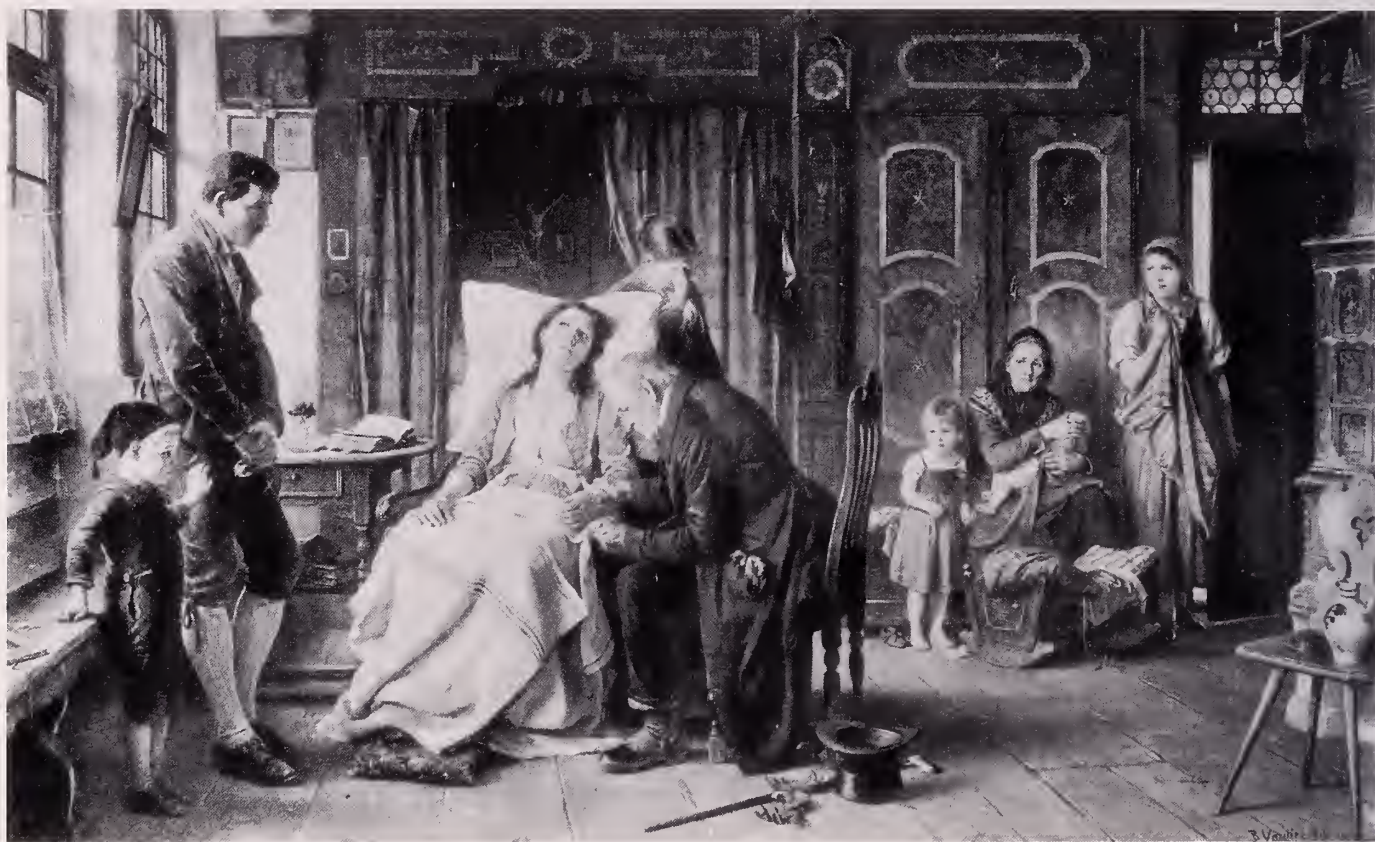
Such considerations get no attention at medical conferences; for a resident to show emotion in the MICU is to confess a softness as shameful as ignorance of the latest medical study. Yet when they get the chance to talk of death, as in our conference, young and old physicians alike turn passionate. Conversation about such forbidden matters brings catharsis, a welcome chance to review the tensions of life, what brought them to the profession. As they work through their own fears of death, doctors and nurses uncover their own anxieties about living. In coming close to dying, we relearn our own pains, and begin to define our own lives. That happened at our conference.

Women have taken birth back from the doctors through home delivery and nurse-midwives. They are right who urge that decisions about when and where to die be taken back from the doctors. In eagerness to fix only the physiology, doctors risk the futility of aggressive therapy continued beyond hope of reasonable benefit.

For some, a "good death" comes when the dying person is fully aware of impending death but has time to say goodbye to family and to living. In India, old people, following ancient ways, begin to speak of their gradual detachment; talking that way helps loosen the bond of life. That is quite different from America, where to be good, a death must be sudden, in the midst of action, in the midst of life. Fortunately for Yale, our university chaplain, Frederick Streets, agrees that a "good death" is 1) not alone, 2) comfortable, 3) slow enough for a chance to say good bye, and 4) at the end of a full life.

We in the health professions need to stop ignoring death. We must talk more about our grief and anger at death. We need to contemplate our fear. ❧

Howard M. Spiro '47 is professor of medicine at Yale University School of Medicine and director of its Program for Humanities in Medicine. A gastroenterologist by trade, he is the author and editor of several books, among them Empathy and the Practice of Medicine. Most recently, he is one of the editors of Facing Death: Where Religion, Culture and Medicine Meet (Yale University Press, 1996).



De Geneesher ("The Doctor"), Franz
Hanfstaengl, early 1900s

Students learn from patients facing death

My Patients, My Self

by Susan D. Block, J. Andrew Billings, Lynn Peterson

The room is still with awe and anxiety. Thirty students and eight faculty members wait quietly as a young woman, dressed in black, her body pierced with numerous rings, takes her place in the empty chair. The interview begins. Over the next 45 minutes, the young woman talks about what it means to her to have AIDS, to be facing the end of her life, her worries about dying alone, her spirituality, and her experiences with doctors. The students have met their first "dying patient" as part of a new HMS course on "Living with Life-Threatening Illness."

In the discussion after the interview, the students and faculty talk about how their initial aversion to this woman because of her multiple body piercings gave way to feelings of sadness, empathy and respect as they heard about her struggle to live with this terrible disease. They were surprised that she could so comfortably answer direct questions about her feelings about death, and that her disease had "not destroyed her but refined her, eliminating the superficial." They were disturbed by stories she told about how callous her physician had been about telling her she had AIDS, and were inspired by her description of the wonderful care she had received more recently from her medical team, and her gratitude for their competence and compassion.

Patient descriptions and student comments have been changed to preserve confidentiality.

THREE YEARS AGO, TWO HARVARD medical students, recognizing the importance of developing clinical competence in caring for terminally ill patients, approached us about initiating an HMS course on end-of-life care. Their request felt like a gift, as we had been thinking about starting such a course ourselves. We quickly found wonderful colleagues in the Division of Medical Ethics, Geriatrics and the hospice community to work with in planning and developing the course. We also sought input from several patients struggling with a terminal illness. Out of this patient, student and faculty collaboration—supported by a National Cancer Institute Palliative Care Education grant on Hospice in General Medical Education and Primary Care, and with the approval of the HMS Curriculum Committee and joint sponsorship by the departments of Ambulatory Care and Prevention, Social Medicine, Medicine, and Psychiatry—came a course we called Care Near the End of Life, which was soon renamed Living with Life-Threatening Illness. The course began in February 1995 for 18 students, and expanded to 30 students in 1996.

Living with Life-Threatening Illness is aimed at first-, second- and

fourth-year students. The primary learning mode is an intensive longitudinal clinical experience with a patient with a life-threatening illness, supplemented by weekly seminars, experiential exercises, structured learning experiences, lectures, readings and mentorship to provide students with the knowledge, attitudes and skills necessary in caring for patients near the end of life.

Each student is assigned to a patient with a life-threatening illness. Students then follow the patients through the course of their illness: meeting with them at home, during office visits to the physician, and when they are hospitalized. In addition to developing a relationship with the patient, the students meet the patients' families or significant others, and discover from them what it is like to have a loved one so ill. Students learn how to address sensitive topics such as patients' desires for care at the end of life, patients' values about what makes life worth living, spirituality and religious beliefs, and concerns about how

their loved ones are dealing with the strain of having an ill family member or friend.

Many of the patients are in a hospice program, and students learn from the nurses, social workers and pastoral counselors in these programs how the clinical team supports a patient and family in dying at home and how they address physical, psychological, and spiritual symptoms and distress. They also hear about the value of teamwork and how hospice professionals manage their own stress and grief. When patients die, students attend the funerals and wakes, learning about the process of grief and bereavement, and finding out what it feels like as a young physician to come close to, and lose, a patient.

The interdisciplinary faculty includes Andrew Billings, internist, former hospice medical director and head of the Palliative Care Service at MGH; Susan Block, psychiatrist in the Division of Psychiatry at BWH and in the Department of Ambulatory Care and Prevention at Harvard Pilgrim

Health Center and HMS; Loring Conant, geriatrician at Cambridge Hospital and former medical director of the Hospice of Cambridge; Ruth Fishbach, sociologist in the Division of Medical Ethics; Marshall Forstein, psychiatrist and AIDS advocate at Cambridge Hospital; Daniel Goodenough, cell biologist and master of the Oliver Wendell Holmes Society; and Lynn Peterson, surgeon at BWH and HPHC and head of the HMS Division of Medical Ethics.

Two faculty members meet weekly with groups of six students throughout the course to talk about personal reactions to death, dying and bereavement, the experiences of working with the patients and responses to readings. They help the students build skills in understanding and communicating with patients and their families. The small group sessions emphasize the process of self-reflection and exploration of the meanings of death. Self-disclosure about personal reactions to the dying, on the part of students and faculty, is encouraged as a mode of

The Long Walk

Prior to entering medical school Anne Hallward worked for two years as a hospital chaplain in Washington, D.C. During this time she was regularly called to the trauma center because a patient had died and the family was about to arrive to get the news. It was the job of the on-call chaplain to accompany the physician (usually an intern) down the long corridor to the family waiting room and to sit with the family while they heard the news. Afterward she would take the family to see the body and to say farewell to their loved one.

That long walk to meet the family became familiar to her. The physician had never met the family before and had to

give them news of a sudden, unexpected death. On many occasions the doctors would share their enormous anxiety with her, sometimes clutching her arm and asking her what to say. It was apparent that they had little preparation for this. Unfortunately, this anxiety often expressed itself in hurried information loaded with medical jargon, the doctor frequently failing to introduce him/herself or to sit down. Both the family and the doctor suffered through these encounters. Anne arrived at medical school curious to see how her medical training would prepare her for these situations and was surprised and disappointed to find that there was no core class in death and dying expected of all students.

At the same time, Joshua Hauser, a third-year medical student, was part of a surgical team caring for a patient who was admitted for a routine hernia repair. This woman, who had been healthy all her life, was discovered while on the operating table to have metastatic ovarian cancer. The sense of shock, fear and sadness experienced by this patient was tremendous; the shock and discomfort amongst the team was different, but also significant.

Josh's experience with this patient and with several others who were nearing the end of their lives in the hospital made him realize how poorly prepared he was for this part of doctoring. He began exploring

self-discovery and a route to improving clinical interactions.

Prior to this class, I was never sure about how to talk with patients who are terminally ill. In fact, I never really knew how to talk to anybody about death. I always felt uneasy and thought that if I brought the subject up, I would alienate the person with whom I was speaking. [Now I know that] it is a topic that should not be feared. Talking about death reveals feelings and ideas people have that do not normally surface in everyday conversations. . . .

You have given me invaluable gifts of insight, and when I am caring for my own patients, especially those who are near the end of their lives, you will be there.

— student letter to her patient

In addition, large group sessions include patient interviews, ethics case discussions, a presentation on hospice by a multidisciplinary hospice team, an introduction to chronic pain management, a panel of physicians talking about how they deal with loss, and

interviews with bereaved family members. Symptom control and depression are emphasized to help students recognize how these problems affect quality of life. Students also visit the intensive care units at BWH to contrast end-of-life issues in the hospital setting with those they see in their patients.

The course ends with a closing ritual in which students transform the classroom space with flowers, candles, music and silence into a place for reflection, remembering, and stories and poetry by and about patients.

Our first surprise in developing the course was that so many students were interested in taking it. We had worried about offering a course and no one taking it; instead, more students signed up than we could accommodate. Student interest in the course reassured us that we were addressing an important need. We enlarged the course (and the faculty) to accommodate more students in the second year.

Identifying faculty with expertise in the comprehensive care of patients at the end of life proved to be a signifi-

cant challenge. Palliative care, although a formally accepted specialty in Great Britain and on its way to becoming one in Canada, is still not a recognized discipline in the United States, and few faculty members have made this a central focus of their professional work. We are growing a multidisciplinary faculty, whom we hope can become leaders and mentors, not only in this course, but in improving the care of the dying and their families throughout the Harvard system.

We had anticipated difficulty in identifying and recruiting patients to participate in the course because of the severity of their illnesses and their reluctance to open their lives up to strangers in the midst of such a hard time. When they were coping with life-and-death issues, how could we ask them to reach beyond themselves and contribute as teachers to the education of future physicians?

We were amazed and moved to find so many patients who were willing and, in some cases, even eager to participate. Indeed, they often expressed

how to develop a course in this area, and in the process met a patient living with metastatic breast cancer who stood up at a medical conference and wondered why doctors were not being taught more about how to communicate about death and dying. Josh approached her and through many conversations, her ideas and encouragement became an impetus for him to work on this project in earnest.

Through serendipity, we each decided to begin by contacting Alan Mermann, a chaplain and physician who had designed such a course at Yale. Through him, we learned of our mutual interest in creating a course on end-of-life care at Harvard. We

began meeting to plan the kind of course we felt would have helped us. Next, we made contact with several faculty members with whom we felt comfortable working. Over the next several months we met to further develop and refine the curriculum.

Three central issues evolved during the first year, one expected and two unexpected. As planned, students in the course wrestled with questions around appropriate boundaries: What is the difference between friend and patient? Do you really have to distance yourself to survive this work? How do we remain present and connected when these experiences are so painful? The small

groups offered a place of support to explore these and other questions.

The second issue was an extension of the first: whether to continue the relationship with the patient after the course had ended. After much deliberation, we and the other faculty decided to ask the students to terminate the relationship as part of the course. We felt that it would be an important lesson in saying how to say goodbye, and in dealing with the issues of loss while still receiving supervision and group support. We knew that it would be a painful lesson on the limits of a professional relationship, and some students rebelled. They were concerned about aban-

doning their patients and rightly did not feel this had been spelled out in the beginning. As with all first attempts, our learning curve was steep. Unexpectedly, we had to wrestle with what to call the course. We had planned to call it "Care Near the End of Life," but when recruiting patients to teach the course, some patients and faculty were thrown by such a direct acknowledgment that their lives were ending. Many of these patients had been referred to the course by other faculty members and it was hard to tell over the phone at first contact whether they saw themselves as being at the end of their lives or not. It was difficult to know how direct to be

gratitude for the opportunity to teach future physicians how to care for people in situations similar to their own. Some described the course as an opportunity to leave something of themselves behind, as a legacy for future generations. Still others said that they wanted to participate as a tribute to the excellent care they were receiving from their own physicians or to redress care deficiencies they had experienced.

Many of these patients were very near death; indeed, about one-third of the patients who participated last year died during the course. This year we have a waiting list of patients who are hoping to become involved when the course starts again in February.

In participating in the course, both students and patients were choosing to develop a relationship that they knew would end in a loss. Students anticipated and worried about what it would be like to grow close to a patient and his or her family, and lose them. They expressed concern about imposing on patients at such a difficult time. They

and where each patient stood on the continuums of hope and denial.

This struggle was mirrored by the students who had to listen carefully to know how and when to bring up the subject of dying. Together, as both faculty and students, we learned about the delicacy of honoring hope, respecting denial, and supporting the unique way that individuals prepare for their own deaths.

Anne Hallward '97 is applying for residencies in primary care and psychiatry and Joshua Hauser '95 is a medical resident at Brigham and Women's Hospital.

worried that they would have nothing to offer to their patients, that they would not know what to say or how to convey their compassion and concern, of becoming overwhelmed with sadness about their patient's situation, or about a past or anticipated loss in their own lives.

Patients were concerned about what it would feel like to talk about their experience of being so ill and facing death. Some lacked confidence that they had anything to teach. Others expressed concern that they would burden the students with their problems.

We learned that many students who signed up for this course, as is true of medical students in general, have had significant personal losses. Virtually all were struggling to explore and understand their own personal concerns and fears about death in the hopes that this would make them better doctors. We found that students used the small-group discussions to explore their personal experiences and that this activity was essential for enabling them to relate well to their patients.

Any time the thought of death came to mind, I quickly changed the subject in my mind. But since I have chosen medicine as my career, I will be faced with death every day, more than once a day. So I knew that it was time for me to start dealing with death for my own sake. In addition, it would help me relate to my patients and may even help them that I have given the topic some deep thought.

— student essay

We ask medical students to do many emotionally difficult things during their training—to put sharp instruments into people, to treat psychotic and profoundly disturbed people, to examine patients' bodies and inquire about their sexual functions, to sit with and attend to dying patients. In asking students to carry out these difficult tasks of doctoring, we have a responsibility as educators to prepare them.

Most medical school curricula provide few opportunities for students to learn about working with the dying, yet all physicians participate in the care of dying patients. Indeed, death is a shadow over most physician/patient encounters. Patients commonly worry: "How sick am I?" "What do these symptoms mean?" "Could this be cancer?" An understanding about patients' experiences and fears of dying, awareness of the impact of bereavement on family members, and appreciation of opportunities to help patients and families live as well as possible while they are dying are critical for physicians to provide good care to their patients.

In the clinical years, students are thrown into the teaching hospital with few opportunities to reflect on and address what it means to participate in the care of a dying person. Many studies have documented serious deficiencies in the care offered to the dying, and in physician communication with the dying and their families. Hospitals are geared towards specialized and high-technology care of episodic illness. Students encounter care that they often feel is overly aggressive, receive little teaching about end-of-life issues, encounter few good role models, and witness difficult deaths. Even though clinical education is moving towards the ambulatory setting, few students have exposure to the hospice programs, nursing homes and home care settings in which many dying patients receive care.

Our course prepares the student to care for the dying in several ways. First, it gives each student an opportunity to examine his or her own fears and experiences with death so it is not so overwhelming and hidden. It provides the doctor-in-training with the opportunity to develop ongoing and deep relationships with patients, and to overcome their natural fear of getting close to death and suffering. Until January 1997, when the new primary care longitudinal clerkship begins at HMS, only our course has required that students have an ongoing relationship

with patients outside the hospital.

There were many reasons for which I decided to take this class. One of them was that I wanted to see how knowing that one's death is around the corner gives someone a different perspective on life. I wanted to see whether knowing one's fate ahead of time is a gift or a burden. I still do not know the answer to this question, but I learned many other things.

— student essay

Next, students learn what it means for patients to live with life-threatening illness, and gain a window into the concerns, fears and wishes of patients confronting serious illness. Since the patients who participate in the course are living at home, the student learns what dying can be like outside the hospital, in the home setting, where the vast majority of patients prefer to spend their last days and weeks. The student sees the daily burden on the family, confronts the issues of access to care in the community, and learns about resources in the community

(especially hospice programs).

In addition, mentors act as role models who value and are expert in this form of care, helping the student develop skills in sitting with suffering people and talking with them about end-of-life issues. This course provides a model for learning how to deal with the ethical dilemmas that pervade medical practice, since it incorporates hands-on experience, basic communication skills, thinking critically about options, and reflecting on the physician's moral obligation. It brings theory into practice.

It is comforting to know that by listening we may be alleviating a dying patient's psychological pain just as we alleviate physical pain through the use of drugs. It reinforces the notion that the role of the physician is not just to heal, but to alleviate suffering and to improve the quality of life of their patients, for as long as that life exists.

— student journal

Students also take away valuable personal lessons about how to live their lives that may put the consuming experience of medical school into better perspective:

I learned that it is not always correct to "do unto others what you would have done to you." This golden rule was deeply ingrained in my upbringing. I believe that this is still true in general; however, when it comes to sustaining or terminating someone's life, this rule is no longer applicable. I think what the patient desires should be the utmost priority for his/her physician, given that the patient is well informed of all the possibilities and consequences. After all, we are only their caregivers and not their care dictators.

And another reflects:

Ultimately, although it's not very definitive or easy, the proper approach for a doctor/patient relationship, with issues of death or any other, is to try and make a connection. The connection can be one of real friendship, shared values or simply of

The Last Lesson

My patient, Vicky, died last Friday. I wanted to share with you how important her participation in the class was to her and her family. When I went to the wake, there was a framed letter from Dr. Federman out at the funeral home. It was a letter thanking her for being in the course. At her funeral, the hospice chaplain spoke about her final days, and mentioned that she said one of the most significant things she had done was to be a participant in the course. Also, I had written Vicky a letter at the end of the course thanking her for being my teacher. She gave copies of the letter to her family, and her son read the letter at the funeral yesterday.

I wanted to tell you this for a few reasons. First of all, I thought you and all the other instructors should know what an impact this course can have on people. I learned so much, and it seems that Vicky and her family got something wonderful from the course too. So, thank you. Also, it might help other students who take the course to know that doing this can make a difference. Many times last year, we all felt like we were burdens on our patients. It was, after all, a course for us. I did not realize how much it meant to Vicky to be doing the course. I was lucky enough to be able to find this out.

Finally, it reminded me how important it is to do "little" things for people. The thank-you letter I wrote to Vicky seemed like a very small thing to me. I almost didn't do it, thinking that she would know how grateful I was. In the end, though, it made a huge difference to her, to her family and to me. I needed that reminder, and I think we all do.

Jennifer Furin '99

duty and care. And I am slightly relieved to think that there is probably not one best way to make that connection; I think my patient may have appreciated me less if I came to celebrate his continued existence more than simply respect who he is and what he has already done. That is the beauty of medicine: the professional relationships formed are intrinsically personal, each one unique and each bringing with it new potential and risk.

The patients, too, had very positive experiences participating in the course. They and their families expressed gratitude for the students' interest and concern. They were grateful to have the chance to make a meaningful contribution, even at a time when they felt so limited by their illnesses.

Our experience as teachers in the course confirms our sense of the importance and value of this kind of teaching, and its many positive effects on students. The very existence of the course conveys the notion that terminal care is an important, legitimate and worthwhile interest in medicine.

We hope to show students the tremendous personal enrichment and perspective we have received from working with patients and families facing death. The course transmits our enthusiasm about the contributions we can make to patients and families as they confront death and loss, and helps to build a network of younger colleagues who view care of the dying as a core professional commitment. ❧

Susan D. Block is HMS assistant professor of psychiatry in the Division of Psychiatry at Brigham and Women's Hospital and in the Department of Ambulatory Care and Prevention at Harvard Pilgrim Health Center. J. Andrew Billings '71 is HMS assistant clinical professor of medicine at MGH and director of the MGH Palliative Care Service. Lynn Peterson is HMS associate professor of surgery at BWH and head of the Division of Medical Ethics.

The Game Goes On

Many years ago I developed my own vision of what awaited me on the other side, a kind of way of putting my mind at ease that it wouldn't be all that bad.

I envision that when I die I go to a basketball court where there is a game always going on. The special thing about this game is that everyone playing suffered great physical illness in life at a young age.

There is a guy who had been a quad, a guy who had had multiple sclerosis, and there would be guys who had had cancer like me. Here now in this place we will all be restored to perfect health. Once again I would feel my left lung in my chest, and the muscles of strong legs.

Few words are spoken in this place, but everyone knows the pain the other suffered in life. As in life there is a bond between the disabled, in death the lessons of life still bond. We are a special group of people who fought the good fight, overcame the impossible, and have found our reward in a new life.



Tim Beggs on June 27, 1946. Dorfman



Der Tod als Freund ("When Death is a Friend"), Alfred Rethel, 1911

The Ship Pounding

by Donald Hall

I Heard A Fly Buzz

by Emily Dickinson

I heard a Fly buzz—when I died—
The Stillness in the Room
Was like the Stillness in the Air—
Between the Heaves of Storm—

The Eyes around—had wrung them dry—
And Breaths were gathering firm
For that last Onset—when the King
Be witnessed—in the Room—

I willed my Keepsakes—Signed away
What portion of me be
Assignable—and then it was
There interposed a Fly—

With Blue—uncertain stumbling Buzz—
Between the light—and me—
And then the Windows failed—and then
I could not see to see—



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Each morning I made my way
among gangways, elevators,
and nurses' pods to Jane's room
to interrogate grave helpers
who had tended her all night
like the ship's massive engines
that kept its propellers turning.
Week after week, I sat by her bed
with black coffee and the *Globe*
The passengers on this voyage
wore masks or cannulae
or dangled devices that dripped
chemicals into their wrists,
but I believed that the ship
travelled to a harbor
of breakfast, work, and love.
I wrote: "When the infusions
are infused entirely, bone
marrow restored and lymphoblasts
remitted, I will take my wife,
as bald as Michael Jordan,
home to our dog and day."
Months later these words turn up
among papers on my desk at home,
as I listen to hear Jane call
for help, or speak in delirium,
waiting to make the agitated
drive to Emergency again,
for re-admission to the huge
vessel that heaves water month
after month, without leaving
port, without moving a knot,
without arrival or destination,
its great engines pounding.



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How Denny-Brown to Harvard

by Sid Gilman and Joel A. Vilensky



Came

IT WAS SEPTEMBER OF 1941, TWO years after Great Britain had declared war on Germany, and three months before the United States entered the war. James Bryant Conant, president of Harvard University and an emissary of President Franklin D. Roosevelt, traveled to England to meet with Winston Churchill and his cabinet to discuss the materials that the United States was planning to supply to Great Britain under the lend-lease program. This program, created by the Roosevelt administration, provided Great Britain with substantial amounts of material to assist the war effort without directly involving the United States in the conflict.

At the end of the meeting, Churchill, expressing his gratitude on behalf of the British people, asked if there was anything that England could do for Conant. Conant's one request was that a certain British medical officer be released from his military obligations so that he could begin serving as director of Harvard's neurology unit at Boston City Hospital, a position that the medical officer had been unable to begin because of the war. Churchill turned to his colleague Lord Hankey, paymaster general, and said, "Hankey, see to it." That British medical officer was Derek E. Denny-Brown.

Who was Denny-Brown, and why did Harvard want him enough to appeal directly to Churchill? The answer to that question contains much of the foundation of modern American neurology.

Neurology was an acknowledged branch of medicine well before the turn of the century. During the early and middle parts of the 20th century, however, many physicians practicing neurology needed to provide care for patients with psychiatric disorders in order to have sufficient case loads, and the field included many practitioners known as neuropsychiatrists. It was only during the post-World War II era in the United States that a generation of physicians began to practice neurol-

ogy as a medical specialty separate from psychiatry. These neurologists, among whom Denny-Brown was a leader, transformed neurology into a robust, independent area of internal medicine, completely separate from psychiatry in all respects except for the combined specialty boards, the American Board of Psychiatry and Neurology.

Derek Ernest Denny-Brown, known by his friends as "Denny," was born in Christchurch, New Zealand on June 1, 1901. He graduated from the medical school of the University of Otago in 1924 and became demonstrator in anatomy for one year. In 1925 he sailed from New Zealand to England to study in Oxford with the world-renowned physiologist, Sir Charles Sherrington. Denny-Brown was astonishingly productive during this training period in Sherrington's laboratory, publishing 14 papers in addition to a thesis that resulted in the D. Phil. degree. He participated in work leading to now classic papers that established fundamental views of neurophysiology, including the concepts of the flexor reflex, occlusion and facilitation, the subliminal fringe, and the basic differences between the contractile properties of "red" and "white" muscles.

After completing his work in Sherrington's laboratory, Denny-Brown became resident medical officer at the National Hospital for Nervous Diseases at Queen Square in London in 1928. There he met the leading senior neurologists of the time, including Gordon Holmes and Kinnier Wilson. In 1931 he was appointed registrar to outpatients at the National Hospital and then at Guy's Hospital, and in 1935 to the consultant staff at Queen Square and St. Bartholomew's Hospital.

During these years of intense clinical training and practice, he continued his research, working after hours and on weekends. In 1936 he received a Rockefeller traveling fellowship to work with John Fulton at Yale, where

he gained expertise in experimental surgery on animals, which allowed him to begin developing animal models of human postural and movement disorders. He returned to England in 1937, resumed clinical practice and teaching at Queen Square, and published studies on human fibrillation, fasciculation and myotonia.

In 1925, the same year Denny-Brown sailed from New Zealand to England, Harvard Medical School received a substantial grant from the

Rockefeller Foundation to "establish an academic department of neurology." The initial plan was to devote the upper three floors of a new medical building at Boston City Hospital to the Neurological Unit, which was to be equipped with a large number of beds, laboratories for research, facilities for animal experimentation, and office space for full-time staff. Harvard would provide personnel and support the costs of research and teaching, whereas Boston City Hospital agreed

to provide supplies and patient care.

The medical building was completed in 1930, and between 1930 and 1939 the Neurological Unit flourished under the initial direction of Stanley Cobb and then Tracy Putnam, who in 1939 announced that he had accepted the position of director of the Neurological Institute of New York. A search committee was established to select a new director, with a mandate to identify the individual who showed the greatest promise of further developing the medical and scientific aspects of neurology.

The search committee recommended Denny-Brown, who with his wife, Sylvia, sailed to Boston in August 1939 to visit the Neurological Unit and evaluate the offer from Harvard. After interviews with Charles Burwell (the dean of the medical school), members of the neurological unit, the search committee and Conant, Denny-Brown was offered the position and accepted it.

While the Denny-Browns were on their return voyage to England, however, German troops invaded Poland and Great Britain entered World War II. Denny-Brown was thereby assigned to British military service and dispatched to Oxford to work with patients suffering from head injury. He wrote to Conant that although he knew that Harvard Medical School needed a director of the Neurological Unit immediately, he could not accept the position at that time. Conant responded that the position would be kept open for him; H. Houston Merritt was appointed acting director.

Following the conversation between Conant and Churchill in 1941, Denny-Brown was released from military service and sailed from England to the United States with his wife and their two young sons. Although they crossed U-boat infested waters, they arrived safely in Boston, where Denny-Brown assumed the directorship of the unit.

In 1945 the British army was desperately short of medical officers and

Winston Churchill and James Bryant Conant



requested that Denny-Brown resume his military service. He was granted a leave from Harvard and became a consulting neurologist in India and Burma. He returned to Harvard in 1946 and was honored with an endowed chair, the James Jackson Putnam Professorship of Neurology, which he held until his retirement in 1967.

At the Neurological Unit, Denny-Brown continued the tradition begun by Cobb and Putnam of considering neurological research to be an integral part of the Harvard program. Denny-Brown's personal research projects made seminal contributions to an amazingly large number of subdisciplines of neurology. He published original papers on many neurological disorders, including cerebrovascular disease, subacute necrotizing encephalopathy, Wilson's disease, myoclonus, head injury, peripheral nerve disease, seizure disorders, poliomyelitis, multiple sclerosis and muscular dystrophy. He also published on the physiological basis of a number of disturbances of neurological function, including motion sickness, spasticity, disorders resulting from frontal and parietal lobe lesions, visual motor functions, diseases of the basal ganglia, dystonia, and the cerebral control of movement.

Although Denny-Brown's papers are extremely thorough, his points were not always stated succinctly. He once received a postcard from the great British neurologist F.M.R. Walshe that read, "Dear Denny, I see you have a paper in *Brain*. When is the English version coming out?" Most of his written contributions were also presented at scientific meetings of the leading American and European neurological societies, where he was known as a formidable discussant of the scientific presentations of others, frequently highly critical and incisive, and at times devastatingly frank.

Denny-Brown became highly influential in American neurology, and was elected president of the American

Neurological Association in 1959. He not only produced an exceptional volume of high-quality experimental and clinical research work, but also trained a large number of neurologists, many of whom entered academic neurology and later became departmental chairmen. A 1964 review of the Neurological Unit revealed that almost half of the university departments of neurology in the United States were chaired by his former trainees.

Denny-Brown directed the Harvard Neurological Unit at Boston City Hospital with little assistance. He personally saw all of the patients assigned to the neurology service by making clinical rounds twice weekly. He trained not only his own residents in adult neurology, but also visiting fellows, rotating medical residents from other services at Boston City Hospital and medical students in their third year at Harvard Medical School. Frequently, distinguished neurologists visiting from other cities or countries would join his teaching sessions.

He held a weekly neuropathology conference at which one of the neurology residents assigned to neuropathology would write the protocol of two deceased patients with neurological disorders. After each protocol had been presented, a junior and then a senior resident were asked to discuss the patient, predicting the pathological changes that would be seen. Denny-Brown then presented his views of the case, masterfully formulating the anatomical location responsible for the clinical disorder, discussing the pathophysiology, and predicting the pathology to be seen.

Following this exercise, the neuropathologist would extract the patient's formalin-fixed brain from a jar, examine its gross features, and then slice it in coronal sections to display the pathological changes. At times the neuropathological changes predicted by Denny-Brown's impressive formulations were not seen, leading to the aphorism among his house officers

that in those cases the brain was wrong!

Denny-Brown was a masterful teacher. He demanded strict attention to protocol, thorough and searching evaluations of every patient seen, and careful histories and physical and neurological examinations. He required that house officers evaluating patients with visual disorders construct detailed charts of the visual fields. Similarly, precise charts of the sensory changes were required for all patients with sensory disorders. Denny-Brown could engage an audience with scholarly and complete discussions of his patients' neurological disorders. His discussions often began with the basic anatomical changes involved, and progressed to the type of neuropathology responsible for the clinical picture, the pathophysiology of the disorder, differential diagnosis and means of management.

Denny-Brown was given to outbursts of anger if house officers transgressed by presenting faulty information, or worse, by admitting that the information requested had not been obtained. He was intolerant of both patients and house officers who did not quickly respond to his inquiries with direct, courteous and accurate replies. His integrity was of the highest order, and he had little patience for people who did not measure up to his high standards. Despite his volatile and at times unpredictable outbursts of anger, he was capable of great tenderness, sympathy and understanding. He had swift and unerring judgment in professional matters and was an excellent career counselor.

Denny-Brown was enormously indifferent to earning money beyond the bare essentials. One day he examined two elderly South American brothers who had flown to Boston in their personal aircraft with their personal physician just to see him. When the examination was finished they asked Denny-Brown his fee. He replied, "\$25." The physician, who was translating as the brothers spoke no English, stated, "You mean \$2,500."

"No, no, no, \$25," said Denny-Brown. That was his fee.

He was also extremely self-reliant. Joseph Foley, who worked with Denny-Brown at Boston City Hospital from 1946 until 1959, recalled that one day he was helping Denny-Brown build something, although Foley had no idea what it was. It turned out to be his own electromyograph. He also repaired his equipment at the laboratory and his appliances at home. Nevertheless, Foley also recalled that Denny-Brown sometimes could not figure out how to operate simple devices, such as a flashlight.

The rich legacy that Denny-Brown provided stemmed both from his pioneering work at the forefront of basic neurological sciences and his commitment to clinical neurology as an independent discipline. His influence is evident in his many trainees, who adopted his obsessive attention to detail, emphasis on precision in both written and spoken communications about patients, incisive and logical thinking about disease processes, dedication to hard work, and a never-ending sense of excitement about neurological disorders and the basic functions of the nervous system. Neurology lost a great leader when Denny-Brown died on August 20, 1981.

As Foley wrote in a memorial to Denny-Brown: "His step was lively, his movements quick, and his energy boundless. He seemed to have no trouble changing directions of actions or thought, and always gave intense concentration to the issue of the immediate here and now."

During his many years of productive work at the Neurological Unit and later at the New England Regional Primate Research Center, Denny-Brown made films that depicted the behavior of experimental animals and interesting patients. The results of this effort are 220,000 feet of film of animals after central nervous system ablation experiments, and 15,000 feet of film of patients with a wide variety of

neurological disorders.

We are cataloguing these films and the associated records, and resurrecting his work by making videotape copies available. We are compiling the patient films into tapes that will be useful for teaching medical students, physical therapists and neurology residents about both commonly seen and rare neurological disorders. We are also assembling his studies of primates into a set of tapes that will be useful for neuroscientists interested in viewing the behavior of the animals upon which his many fine papers are based.

We are honored by and proud of our association with Denny-Brown. It appears that the search committee and Conant had the prescience to sense greatness in this man and to petition all the way to Churchill to capture him for Harvard. Harvard, American neurology and all of his students and colleagues are greatly indebted to this foresight. ✎

Sid Gilman, MD is professor of neurology and chair of the Department of Neurology at the University of Michigan School of Medicine (Ann Arbor). He studied under Denny-Brown between 1960-67, first as a resident, then as a research fellow, and finally as an associate. Joel A. Vilensky, PhD is professor of anatomy at the Indiana University School of Medicine (Fort Wayne). He became interested in Denny-Brown's work approximately five years ago, and with Gilman has published articles describing and using Denny-Brown's research collection. This work is currently supported by the National Institutes of Health. Gilman and Vilensky are currently gathering material to write a biography of Denny-Brown, and are grateful to Mrs. Sylvia Denny-Brown and Dr. Joseph Foley for their assistance in this effort.

Alumni Notes

1928 John T. Edsall: "I am currently working on a biographical memoir of my friend Jeffries Wyman (1901-1995) for the National Academy of Sciences. He was a PhD, not an MD, but his work on proteins was fundamental, and will help the advancement of knowledge for a long time to come."

1933 William R. Hill: "Retired from practice of dermatology in June 1996."

1938 Philip V. Harrington: "In November 1995, while in Israel, I developed an obstructive lesion in colon, near splenic flexure. Had a hemicolectomy, with end-to-end anastomosis. I was operated on by Dr. Haskel, Hadassah Hospital, Jerusalem. Good recovery, thus far!"

1943A Douglas H. Robinson is retired and in poor health. His first book, *The Zeppelin in Combat* (1963), has been printed again for the fifth time.

1943B Christopher T. Bever: "Recently promoted to clinical professor emeritus of psychiatry and behavioral sciences at George Washington University School of Medicine."

Rudolf A. Jaworski: "Still in active practice of pediatrics."



